Introduction

It seems that there are at least two opposite points of view toward art, if not more. But before I go any farther, let me say that I don't think one is right and the other is wrong. They are different and for the artist they each have their use and value. Simply put, the two points of view are, on the one side, ***"Art is the imitation of nature,"*** and on the other, ***"Art is based on a concept of the ideal".***

"Art is the imitation of nature *or* Art is based on a concept of the ideal."

In the 1500's Raphael stated, "There are two principles of *ideal* art: the choice of the most beautiful and perfect proportions of models, and a purely abstract idea which has no reference to reality." In May of 1664, Gian Pietro Bellori, the classicist, delivered a talk at the Academy of San Luca in Rome where he affirmed that the choice of natural beauties, which was keenly made by the artist, is superior to nature itself. Raphael, "the great master of those who know," is cited together with Bramante, Perugino, Giulio Romano, and Michelangelo for their efforts to bring architecture back to "the elegant forms of ancient buildings." At the same time there were complaints about the artists who were "abandoning the study of nature and had spoiled art with a style leaning more on practice and pure invention than on imitation of nature." This is the same argument that went on at the beginning of the twentieth century when the modernists art movements rejected the work of the salons in favor of the basic abstract elements of art.

In general, art education is still split along these two basic lines of thought. On the one hand, we have the prevailing approach to learning drawing by using long poses where the student learns to copy the model. Today we call this the illustrative or academic approach. On the other hand, we have a purely conceptual approach where the concept is the overriding element in the drawing. Now what has this to do with teaching drawing for animation? A lot! I feel that drawing, as it is practiced in the animation industry today, most approximates classical drawing in the tradition of Raphael, DaVinci, Pontormo, and other great draftsman of the past. The drawings of the past were used primarily in planned stages toward the creation of paintings, sculptures, and murals. As such, they were *practical pragmatic steps in representing ideas*. The classical approach of constructing

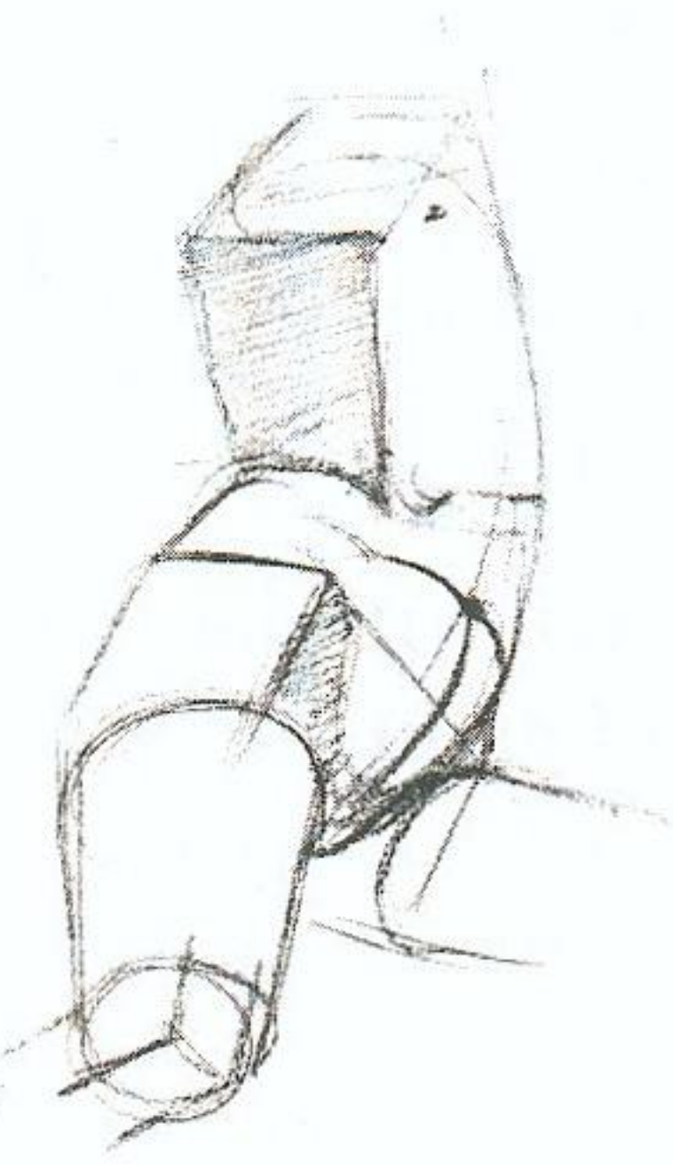
forms in an effort to create the ideal perfect form, along with the desire for clarity, transition, and ease of understanding, are the same requirements of good animation drawing. The main difference is in the ideal of the form created.

"Drawing from imagination towards a conceptualized ideal is the norm in animation."

Drawing from the imagination towards a conceptualized ideal (the model sheet) is the norm in animation. The drawing that we do from the model is research that helps us to better understand the human form and its movements. Unlike the illustrator, learning to copy the model has very little value for us. Rarely do we work from the model except in training situations. One of the primary requisites in order to create is *the ability to draw from our imagination.* Understanding and being able to create believable attitudes and movements, i.e. bringing our characters to life with our acting, is the basis of our art. A child, learning to speak, starts by mimicking the sounds that he hears and slowly develops the relationship of sounds and meanings that we call speaking. This is unlike most training in drawing given today that teaches to mimic nature without an understanding of the elements of visual communication. Of course, there are those individuals who through an innate talent have developed this ability of communication in the same way that there are accomplished musicians who do not read music.

Alexander Marshack was commissioned by NASA in 1963 to write a book in collaboration with Dr. Robert Jastrow "to explain how man reached that point in science and civilization to make it possible to plan a manned landing on the moon". The research led to his book "The Roots of Civilization." Marshack draws the conclusion that one of the basic elements that distinguishes man from most other animals is his ability to think in sequence. He uses the analogy of sending a man to the moon; in his discussion he talks about how impossible the task of sending a man to the moon is when considered as a whole, but taken as a series of small steps or problems, it becomes possible. As each step is broken down into even smaller steps, the impossible becomes possible. The main element is the building of one step upon the previous in a time factored manner.

The pace of learning of any given subject, after the initial rapid advancement, seems to move upward in ever shortening steps,



while the time between those steps seems to stretch out longer and longer until we begin to wonder if there is any movement at all.

Everyone talks about being on a plateau, or hitting a new level, or experiencing the learning curve (a classical example), without actually understanding that each level of development is, in effect, a level of complexity that must be absorbed before one advances to the next level. Trying to skip levels of development only slows you down and creates frustrations that jeopardize the achievement of your goals. Yet to accomplish anything complex there are *three basic elements that are required.* First, you need *a plan or approach;* second, you need *the knowledge to put the plan into effect;* and third, you must have *the spirit to carry it through to completion.*

"Each step being broken down into even smaller steps, the impossible becomes possible."

The basis of my teaching is the development of an approach that allows you to acquire knowledge and visual skills in a systematic way, building upon your understanding and abilities in logical simple steps. I have made a real effort at trying to keep each step as simple, clear, and logical as possible. In fact, many of the steps in my basic approach seem so simple and basic that quite often the student tends to ignore developing these fundamental skills, feeling that he has advanced beyond them. My experience has shown me that the majority of students' problems in drawing are with the basic elements, or tools of our trade. If you think of all the possible visual elements that you must learn as keys on a piano, the more keys you have, the wider range of possibilities you can enjoy. Of course, you can make music with just a few keys, but that should be based on choice not limitations.

Since the basic approach that I use in teaching is one where we analyze the model, and not copy it, the approach itself helps us acquire the knowledge needed about our subject. I use the word subject, not model, because the basic elements of this procedural approach apply to drawing anything, be it a tree, interior, or figure. You cannot really draw something unless you know what it looks like. The more knowledge you have of whatever it is that you are drawing, the better off you will be.

An extremely important element of knowledge is that we must develop our ability to use our emotions. Probably our most important skill is to be able to

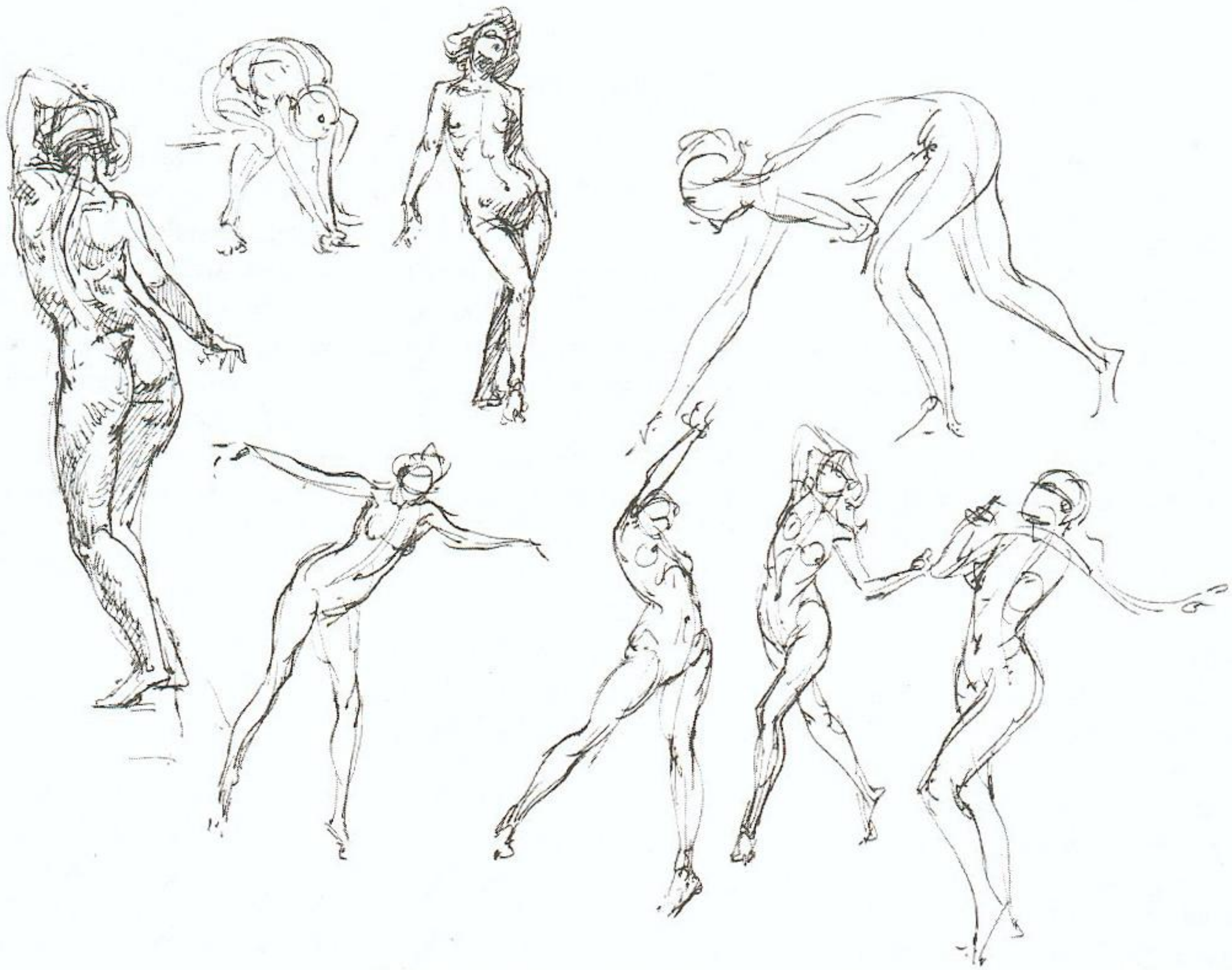
communicate our feelings through our drawings and to draw upon our own emotional experiences at will. One of my favorite sayings is that *you have to be emotional about your intellect and intellectual about your emotions.*

A particular difficulty I have in teaching such a systematic approach to drawing is that the end result can to easily be a mechanical and boring formula. I continually have to keep reminding the student that there are no rules. What I am teaching are visual tools and strategies for approaching the figure, a means for helping students to understand what they are looking at. In the end, it is up to each individual to bring to his drawing that spark of life.

You will find me stating over and over again, ***"there are no rules, just tools."*** Visual tools are fundamental concepts used not only to aide us in drawing but in seeing. These, in some cases, consist of procedures and, in other cases, elements such as the box and sphere. A large part of this course is in fact the development of these tools.

I will end this introduction with my favorite quote by an artist which exemplifies the pursuit of excellence in drawing that we can only hope to achieve.

"From the age of six I had a mania for drawing the shapes of things. When I was fifty I had published a universe of designs. But all I have done before the age of seventy is not worth bothering with. At seventy five I have learned something of the pattern of nature, of animals, of plants, of trees, birds, fish and insects. When I am eighty you will see real progress. At ninety I shall have cut my way deeply into the mystery of life itself. At a hundred I shall be a marvelous artist. At a hundred and ten everything I create, a dot, a line, will jump to life as never before. To all of you who are going to live as long as I do, I promise to keep my word. I am writing this in my old age. I used to call myself Hokosai, but today I sign my self "The Old Man Mad About Drawing." ("The Drawings of Hokusai," Introduction by Stephen Longstreet, Borden Publishing Co.)



Gesture

"Gesture is the single most important element in the drawing."

The action of the figure is usually expressed as "gesture". It means the movement and attitude of the figure. It is body language and all of those subtle differences that characterize individuals, be they human or animal. In this regard, when I refer to the *model*, I mean not only a model posing for short poses of thirty seconds to three minutes, but also people who are not posing, and are in real life situations. We use essentially the same learning procedure in what is referred to as the "quick sketch." It will be assumed that for the sake of learning, at this point, they are the same.

The primary difference between this lesson and a regular class in *quick sketch* is that we are only applying the beginning steps of the learning process for this particular technique. Later in this course, the gesture is combined with other visual learning tools to develop drawings of longer duration with different ends in mind. The quick sketch uses some of these tools, but its purpose is quite diferent.

When I say model, I mean not only the model in the class but also those that you are drawing outside of class as "quick sketches." Other terms used for what we call gesture are "attitude" and "body language." Gesture is the single most important element in the drawing. No matter how well a drawing is rendered, without that feeling of individuality that we experience in looking at real life, the drawing is nothing more than an academic exercise. Long before we can actually see a person's face, we can recognize him by all those elements that make up that individual, such as his general bearing, proportions of his body, how he dresses, how he walks, and holds his head.

I am going to present this material in a series of steps stopping to explain and clarify points as I go. In reality, of course, it is never quite that neat or simple. Many of the steps are actually done simultaneously. The total is a summation of the action in simple terms and is essentially what this

lesson is about. The illustrations are examples of this total which is what you should, in a sense, see before you start the drawing.

"You are not only learning to draw but to see."

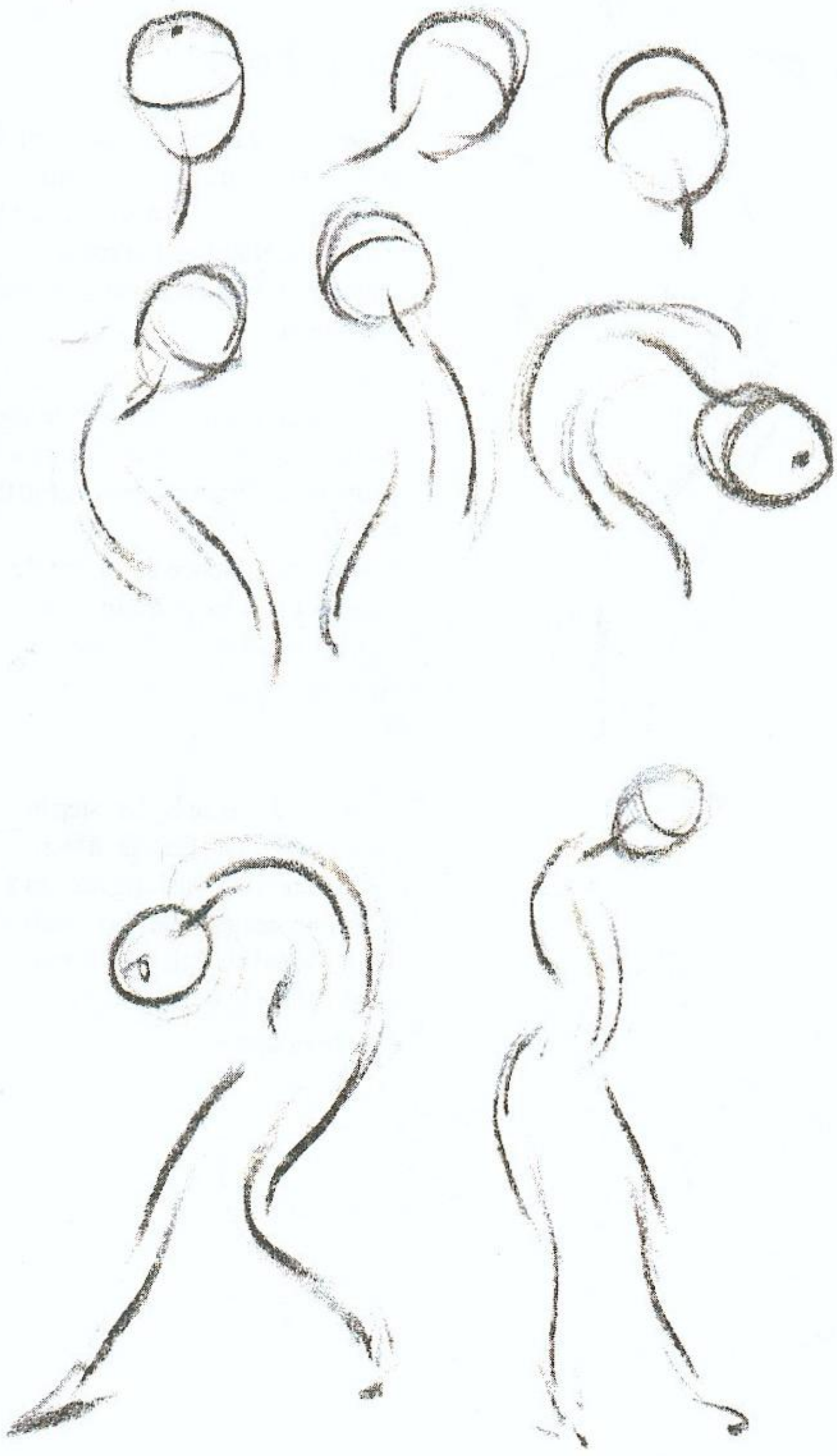
Practice looking at your subject and then drawing it from memory. When doing gesture sketches, you do not usually have the luxury of models holding still while you draw. Practice this skill continually wherever you happen to be - on the bus, watching television, or in the shopping mall. In looking at the action, or gesture, it is important to try to grasp the total before you put a line down. Practice looking at your subject and then drawing it from memory. This exercise is particularly useful when you don't have your sketchbook with you (which shouldn't happen), or are in situations where it is awkward for one reason or another to be drawing. When drawing in your head, go through the same steps and use the same imaginary lines you would if you were drawing on paper. You draw with your mind, not your hand. Then when you can, redo the drawing on paper. With practice you will be amazed at what you can do, but it takes practice.

The basic procedure.

You should do each drawing using the same series of steps until it becomes second nature to you in a similar sense as how driving a car becomes almost automatic. Start the drawing with simple lines that take in the total action of the figure, without worrying about the shape. A simple sequence of steps is indicated in the following examples. Remember, there are no rules, just tools!

Step One.

Start with a simple oval for the head, imagining a central axis so that the oval clearly represents the tilt and lean of your subject. Use a simple "dot" on the top to indicate when the head is tilting toward you, and possibly an ellipse for the eyes to help show more clearly the action of the head.



"Gesture is the single most important element in the drawing."

Step Two.

Draw a line from the head, representing the neck. This line is not necessarily any actual contour or line that you see on the model but a general feeling of the attitude of the model. Continue this line, representing the neck, pulling from the head, into the upper body down to the hips. You should be more concerned with the how the lines show the action of the model, rather than any actual line that you see on the model. Look at the examples on this page to see the variety of ways that this can be accomplished. These are not the traditional stick figures that you see in many basic books on drawing. They are lines that show the flow of the movement and relationship of the parts in a simple way.

Step Three.

Continue in the same way, drawing the legs. Notice that all of the lines do not have to be connected. Remember, "there are no rules, just tools." It is important to remember the simple fact that what the viewer sees are the lines you put down on the paper. The lines have to convey the sense of action in your subject by themselves. To

give a sense of movement and continuity, you must draw each line in such a way as to have one line lead you into the next.

Step Four.

Now add the arms and hands in the same manner that we drew the legs. Again, they do not necessarily have to be attached but must indicate the movement and general placement.

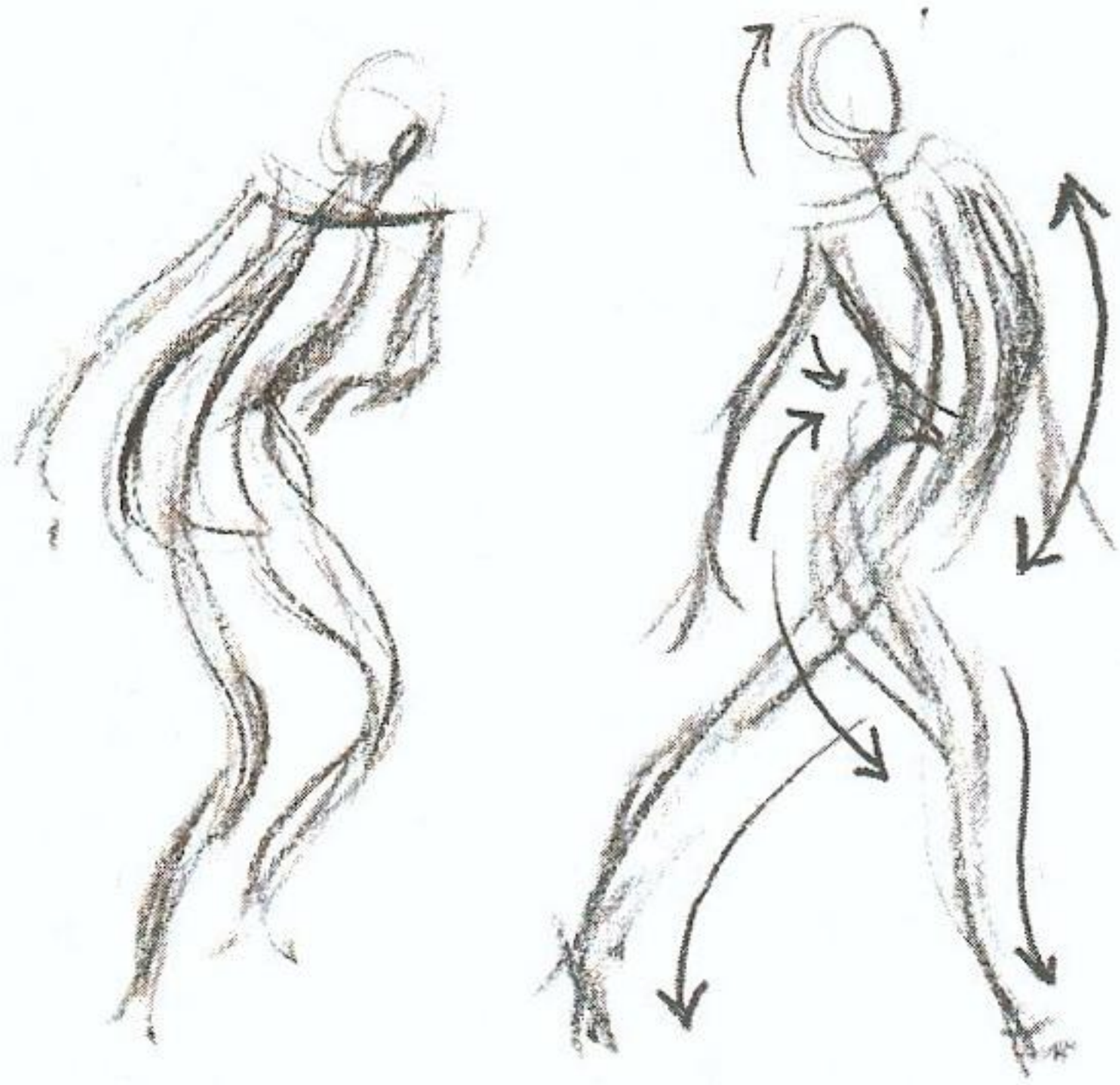
In practice, these steps should take you a maximum of thirty seconds with ten to fifteen seconds being the average.
You should practice these simple steps as often as you can. In a regular day class I will have the students doing this lesson for six hours.

Continue this simple first step in feeling the form, then go a step further and start pushing outward with your lines. "Feel" how forms contract and stretch, pinch and expand. Look at the sample drawings.

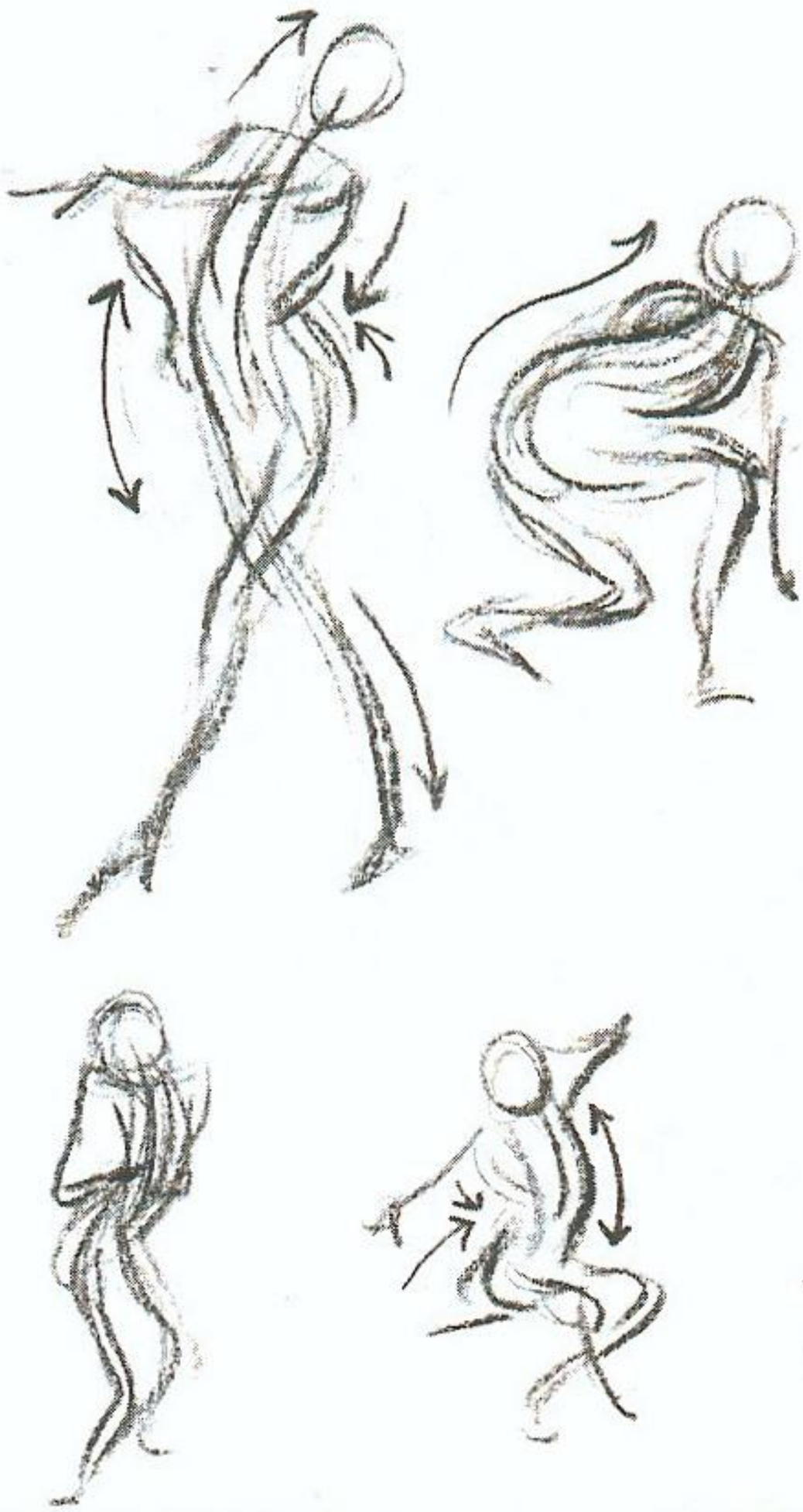
The hardest part of this lesson is to overcome the desire to copy the model. Remember, we ***"never copy the model but analyze it."***

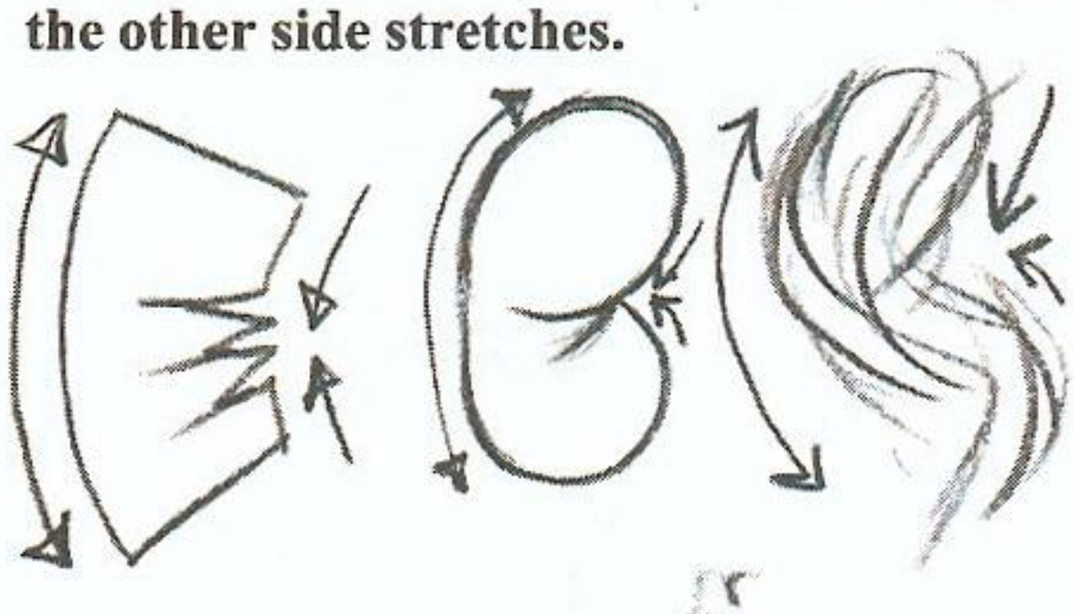
In these illustrations I have drawn arrows around the figures to try and indicate the directions I observed to the pinches and stretches of the form I felt.

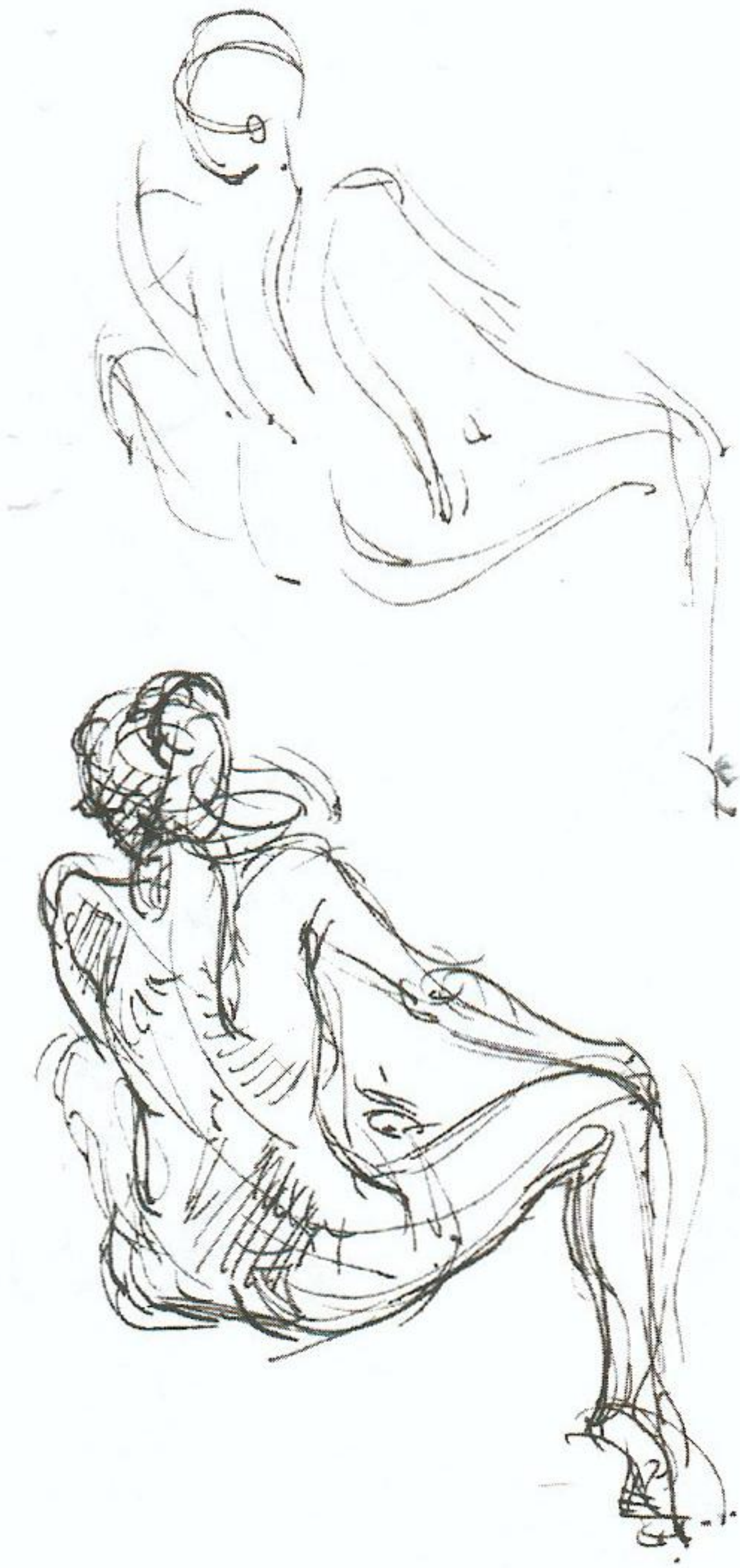
Try to feel as if you were in the pose, or take the pose yourself. Try to feel where forms stretch or bulge, which leg has the weight on it, and, in general, become more aware of the action.



Imagine an accordian. As one side compresses, the other side stretches.

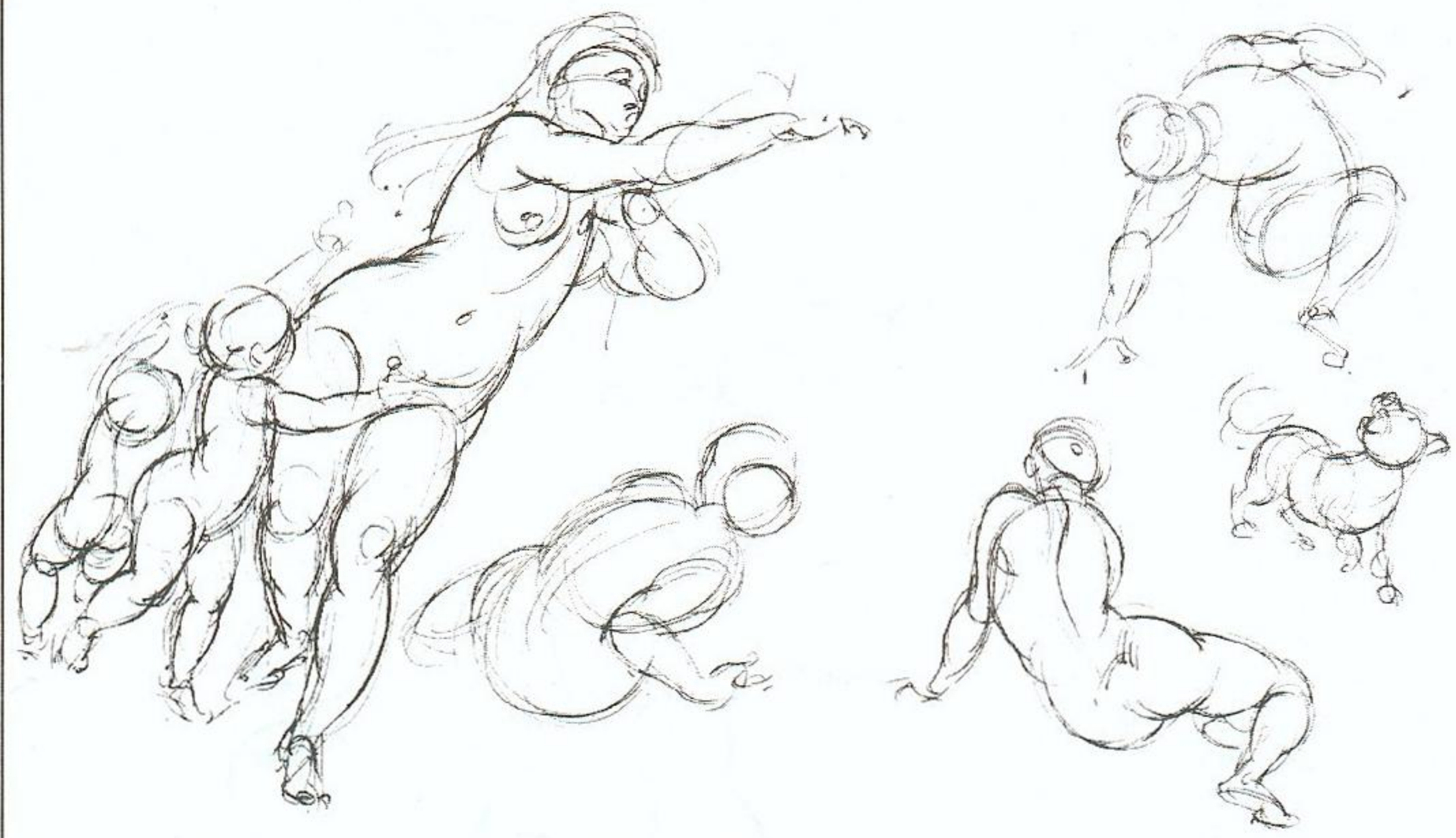






It is important to note that, even though I have presented this material as a definite formula, the end result is not a drawing that appears mechanical.
By focusing on the action, the viewer will see action.

Spherical forms

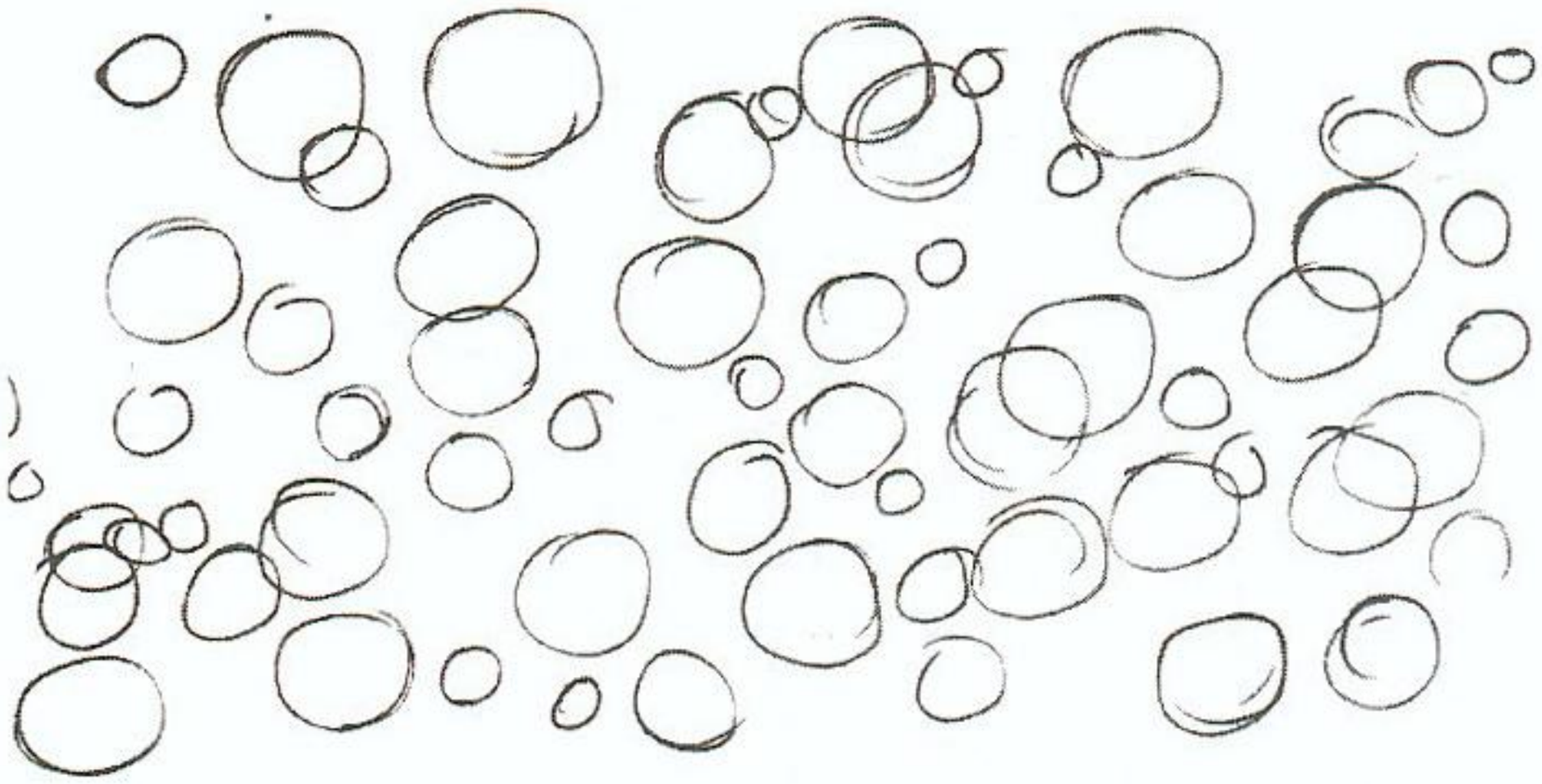


Now that you've "mapped out" the action of the pose, the next step in the process is to define your figure in 3-D space. Learning to see your subject in terms of simple shapes and forms along with values is one of the basic elements in learning to draw. I refer to this ability to see and use basic forms as visual tools. These visual tools, like any tool, help you to accomplish certain tasks. Without the right tools, doing anything becomes much more difficult. This course is designed, step by step, to give you those tools and basic skills in using them. However, the design of a course does not guarantee that you will learn those skills automatically. You have to put in the time and effort to do the learning. To do anything successfully you must apply three basic elements: first, you must have a plan of attack or approach; second, you need the knowledge to put that plan into affect, and third, you must have the tenacity to carry it through to completion.

"First, you must have a plan of attack or approach; second,you need the knowledge to put that plan into affect; and third, you must have the tenacity to carry it through to completion."

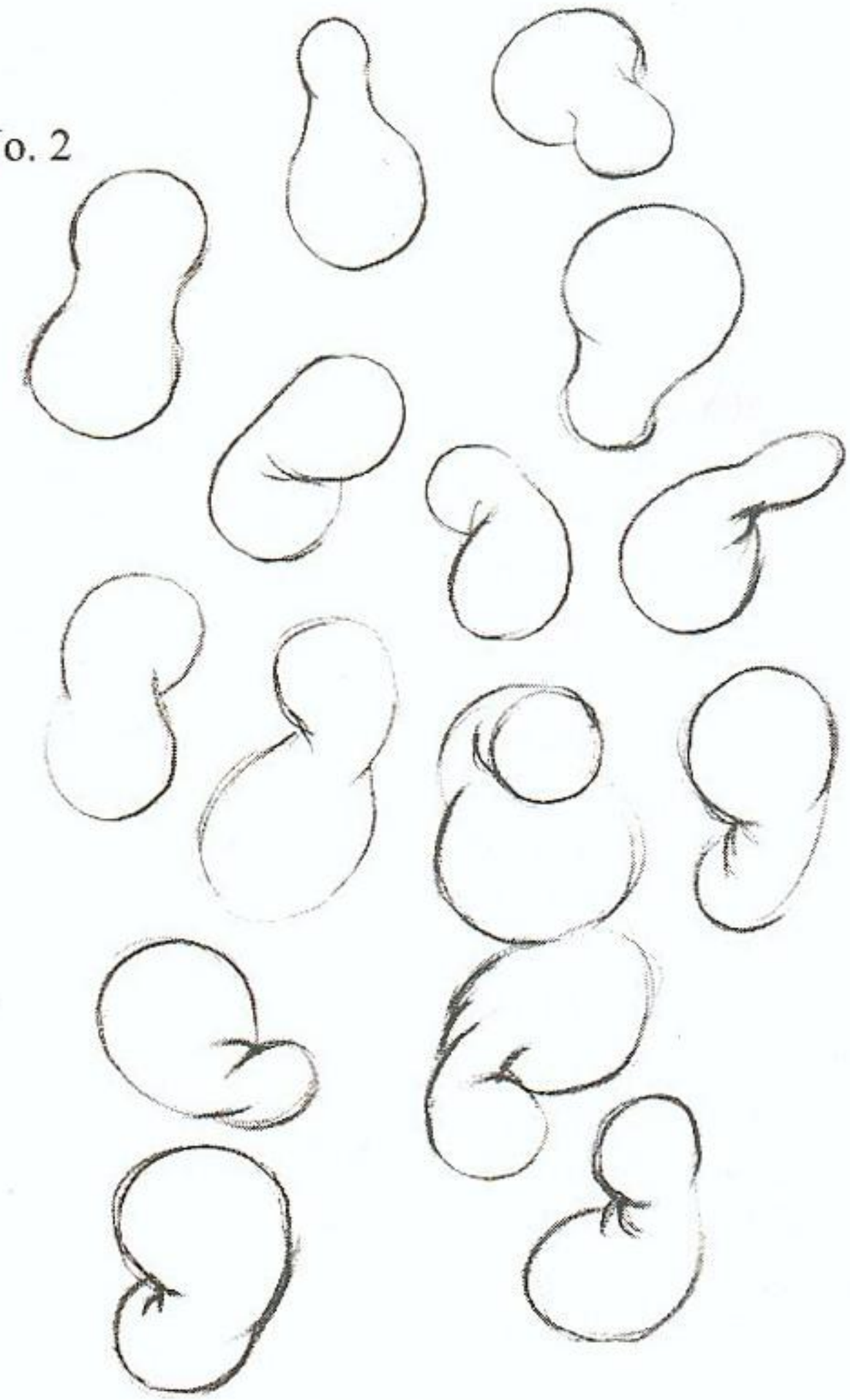
These first lessons are the most critical and are the most deceptively simple in appearance. Through experience, I have found them to be the most difficult for the student because of this apparent simplicity. Everything depends on your putting the time and effort into these initial lessons. Lesson one was a good example of what seems to be simple but is something that in reality is only truly mastered after a lifetime of effort.

Illustration No. 1



Start by drawing a series of spheres on your paper; first, singularly, and then, in pairs, overlapping and changing in size in relation to each other (See Illustration No. 1).

Illustration No. 2



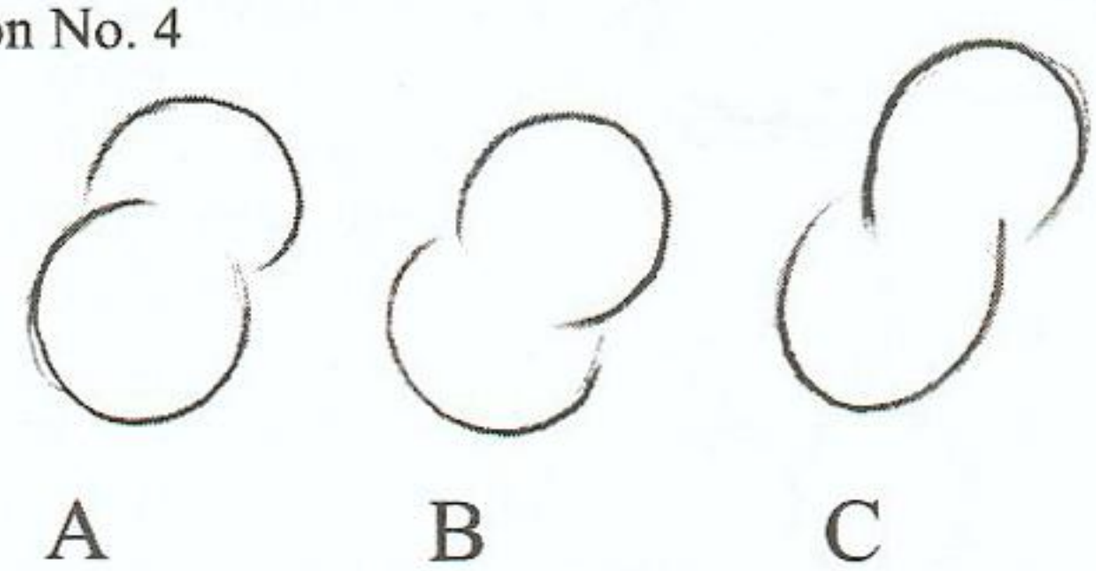
Combining two spheres as one complete form but still having, clearly, two parts gives the form a sense of life (See Illustration No. 2). Have your form walk, bend over, be curious, meet other forms like it, and create relationships. In short, bring it to life. Through all this, you must maintain the sense of volume.

What is a sense of volume? The use of the term "volume" in drawing generally means three dimensional. Having a "sense of volume" in a drawing is to give it this three dimensional quality. There are many different ways of creating this three dimensionality that we experience as volume in a drawing.

Illustration No. 3

Illustrations No. 1 & 3 demonstrate overlapping, the most basic way to create a sense of form existing in space. Illustration No. 2 also uses overlapping but in this case the forms are connected and the overlapping does not completely separate the parts. In Illustration No. 4 "A," "B," and "C" you can see how important it becomes to carefully decide which lines overlap. In Illustration 4 - "A," the forms go away from us, in "B," they come forward, and in "C," they create a twist.

Illustration No. 4

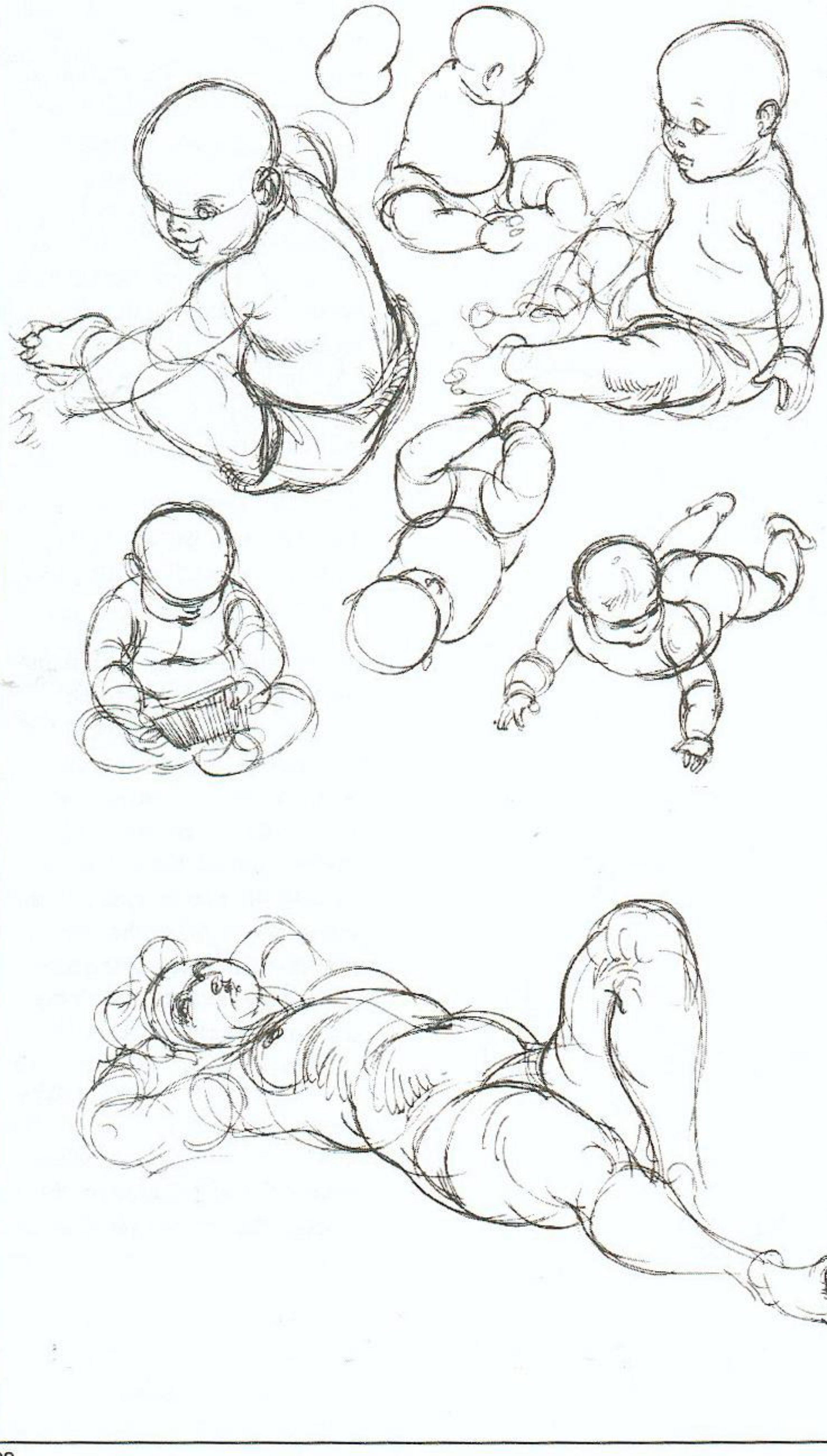


Still, just making forms overlap in itself will not ensure that the drawing will exhibit this sense of form.

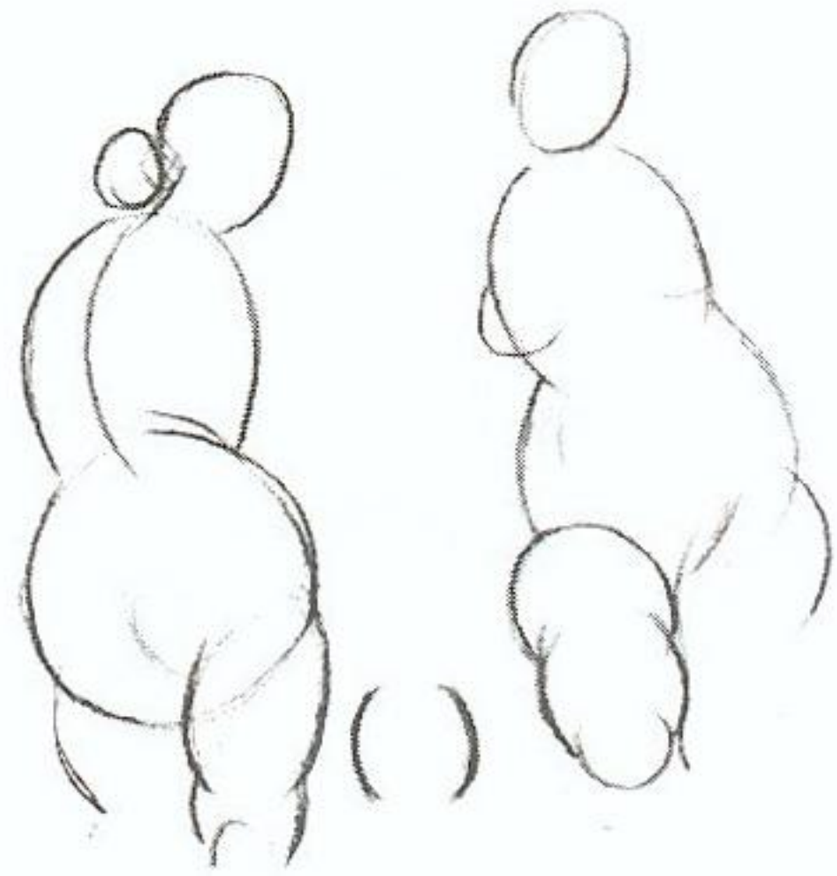
The most elemental skill is the ability to sense these basic volumes on the flat paper as if they were actually existing, being created by you as you move your pencil over and around their surfaces and through the magic space of the paper. Some people have a natural affinity for doing this and others have to work hard and long to achieve it.

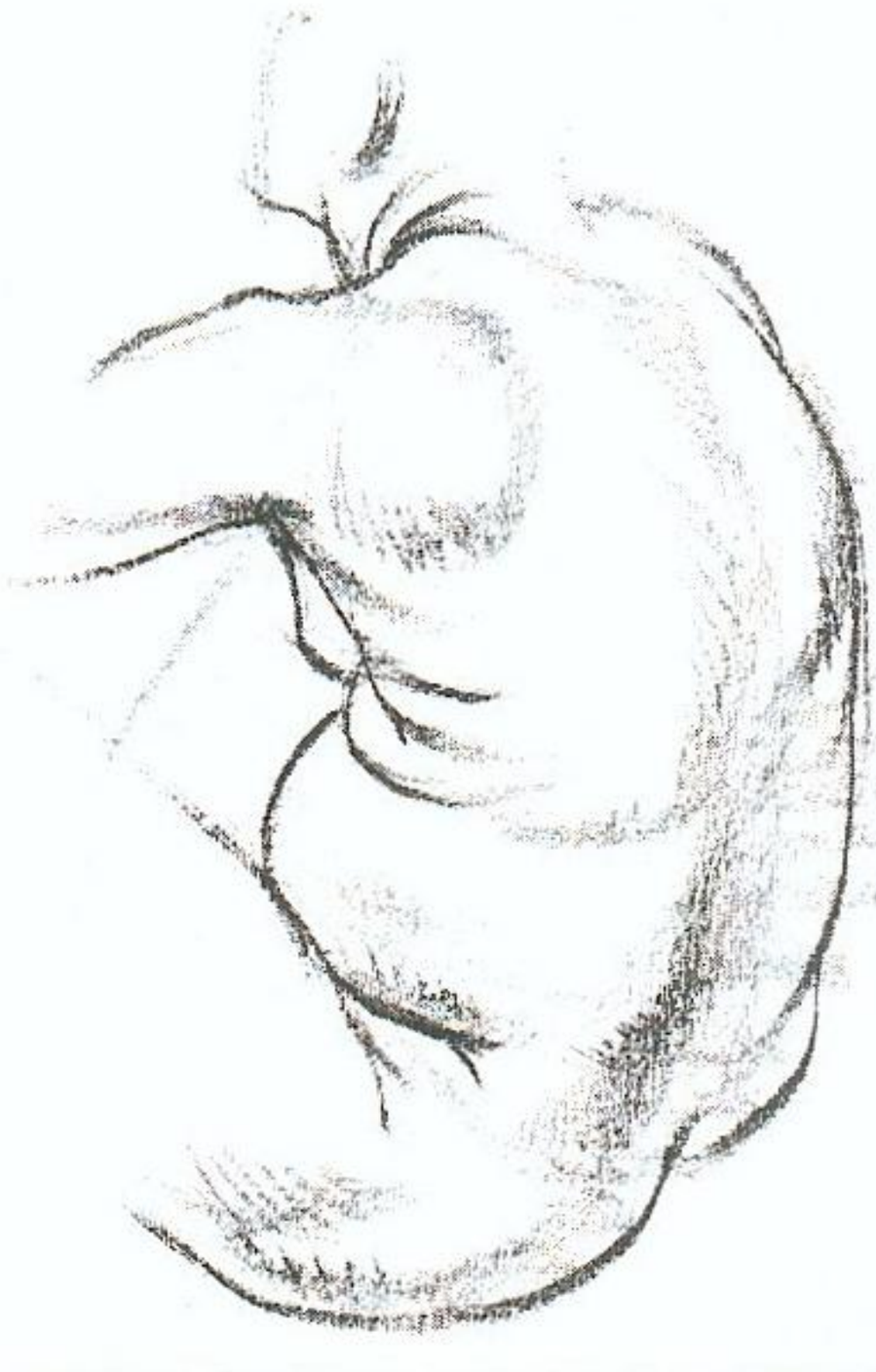
Illustration No. 5

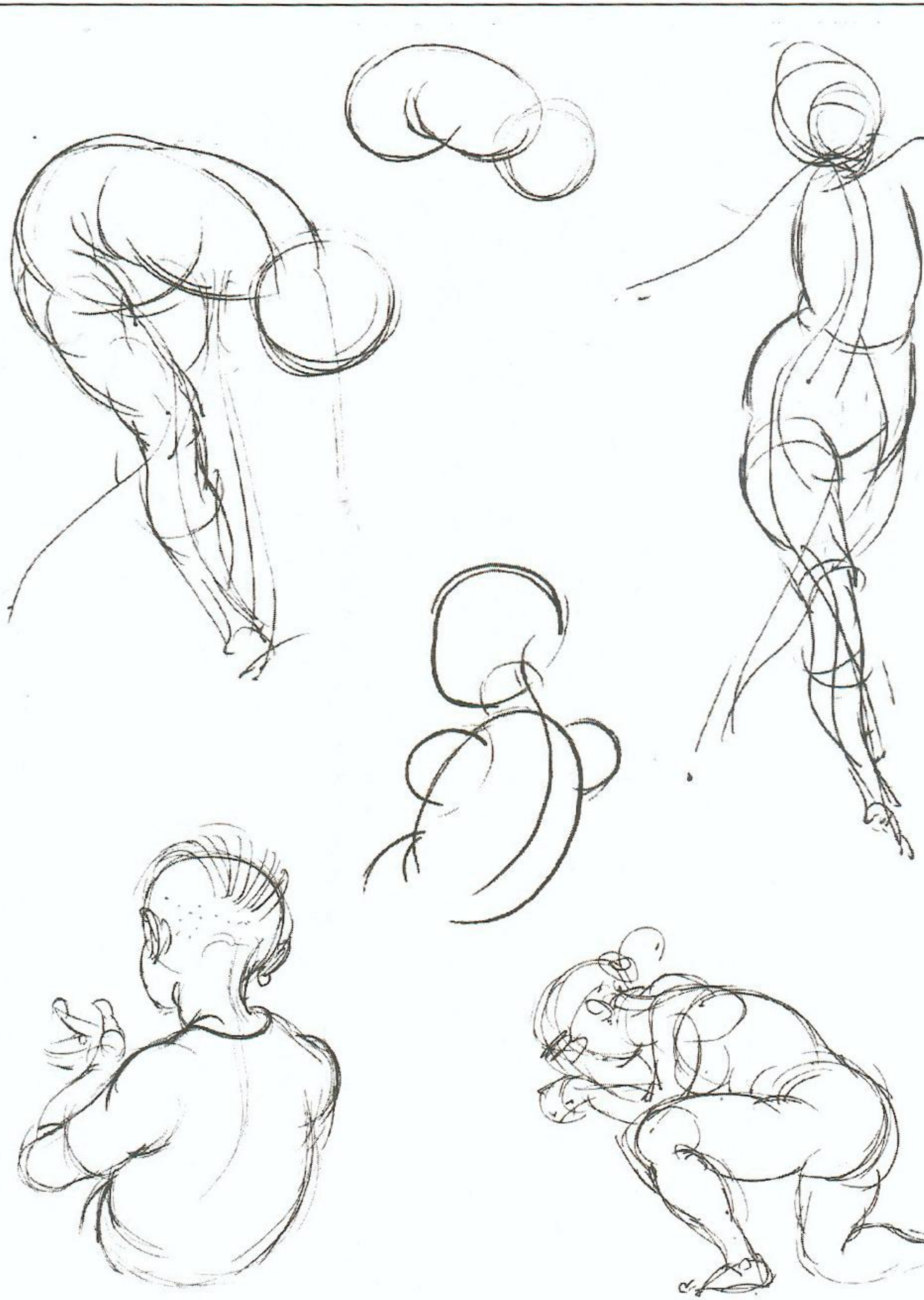
Drawing should be an everyday part of what you do. Look at other artists of the past and see where you can find applications of these lessons. The drawings on this page



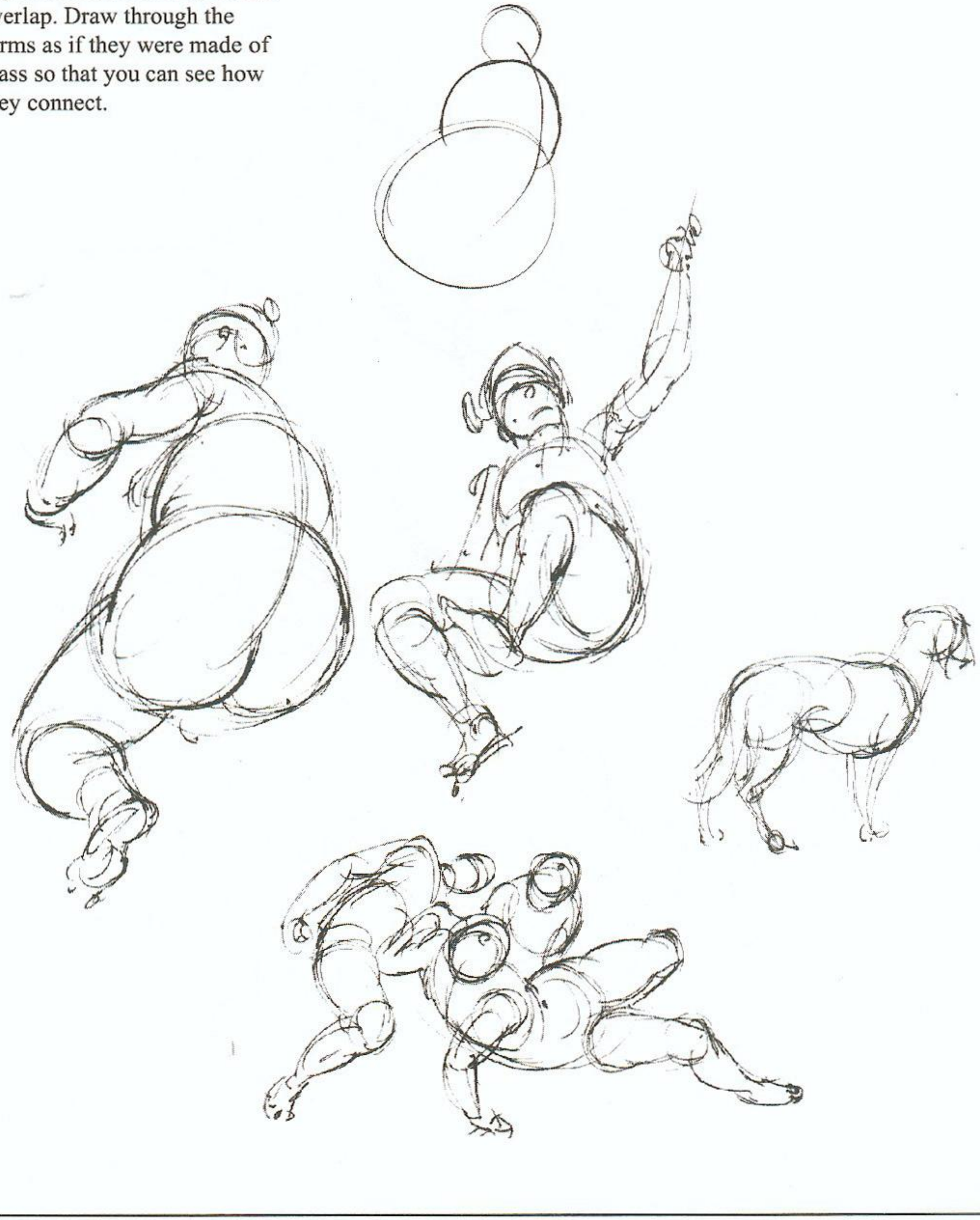
and the following are examples of ways that you can use spherical forms. The important thing is that you practice drawing them. Don't feel pressured into feeling that you have to do fancy detailed drawings. Being loose and feeling the roundness is the important thing at this stage of your development. Create characters out of your imagination, draw familiar things around you, applying the various lessons to what you draw. Copying or drawing from other artists is an accepted traditional approach to learning in conjunction with drawing from observation and creating from your imagination. Each lesson will build upon the previous one, so spend the time on each one and don't rush to the next until you feel comfortable with the current one. Don't hesitate to go back to the previous lesson; each individual is different and there is no set length of time that it should take to acquire the material in these lessons. **Most importantly, have fun with your drawing!.**

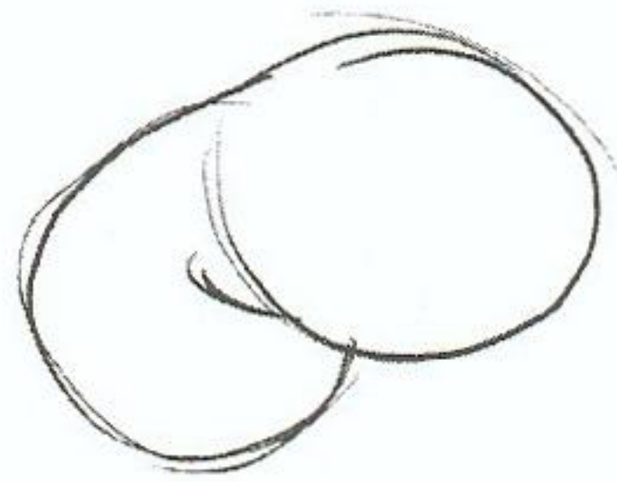


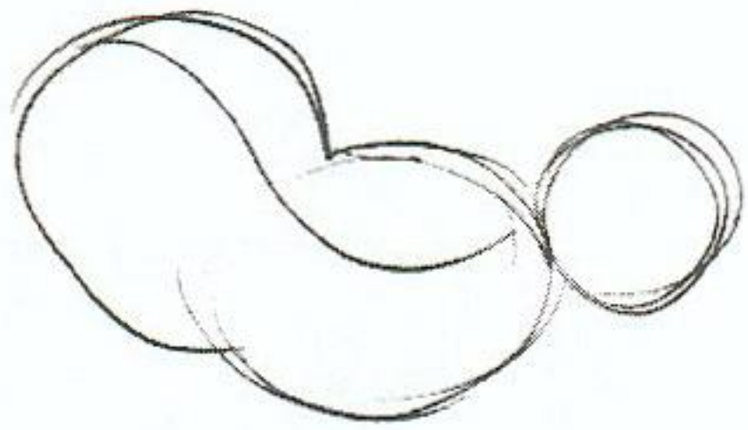


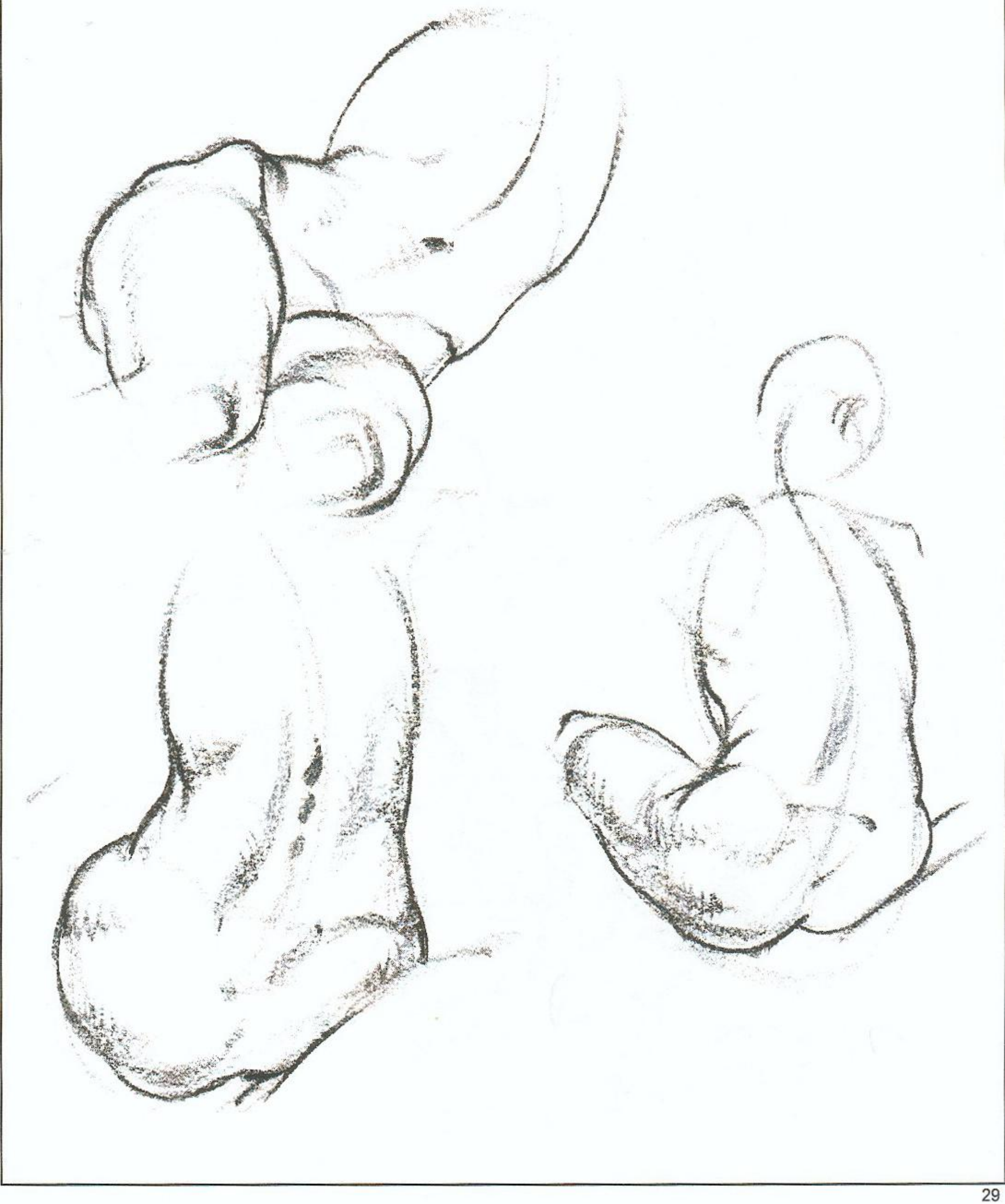


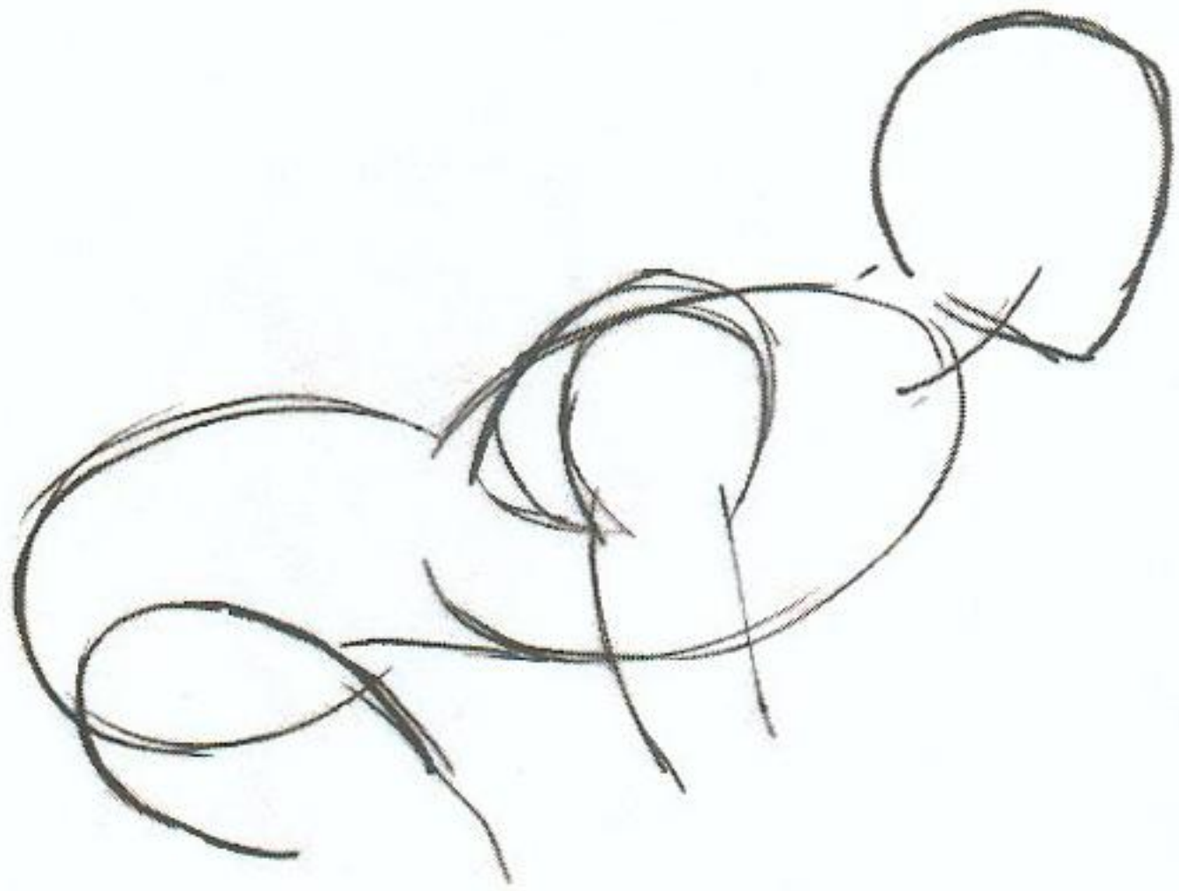
Pay attention to how the forms overlap. Draw through the forms as if they were made of glass so that you can see how they connect.

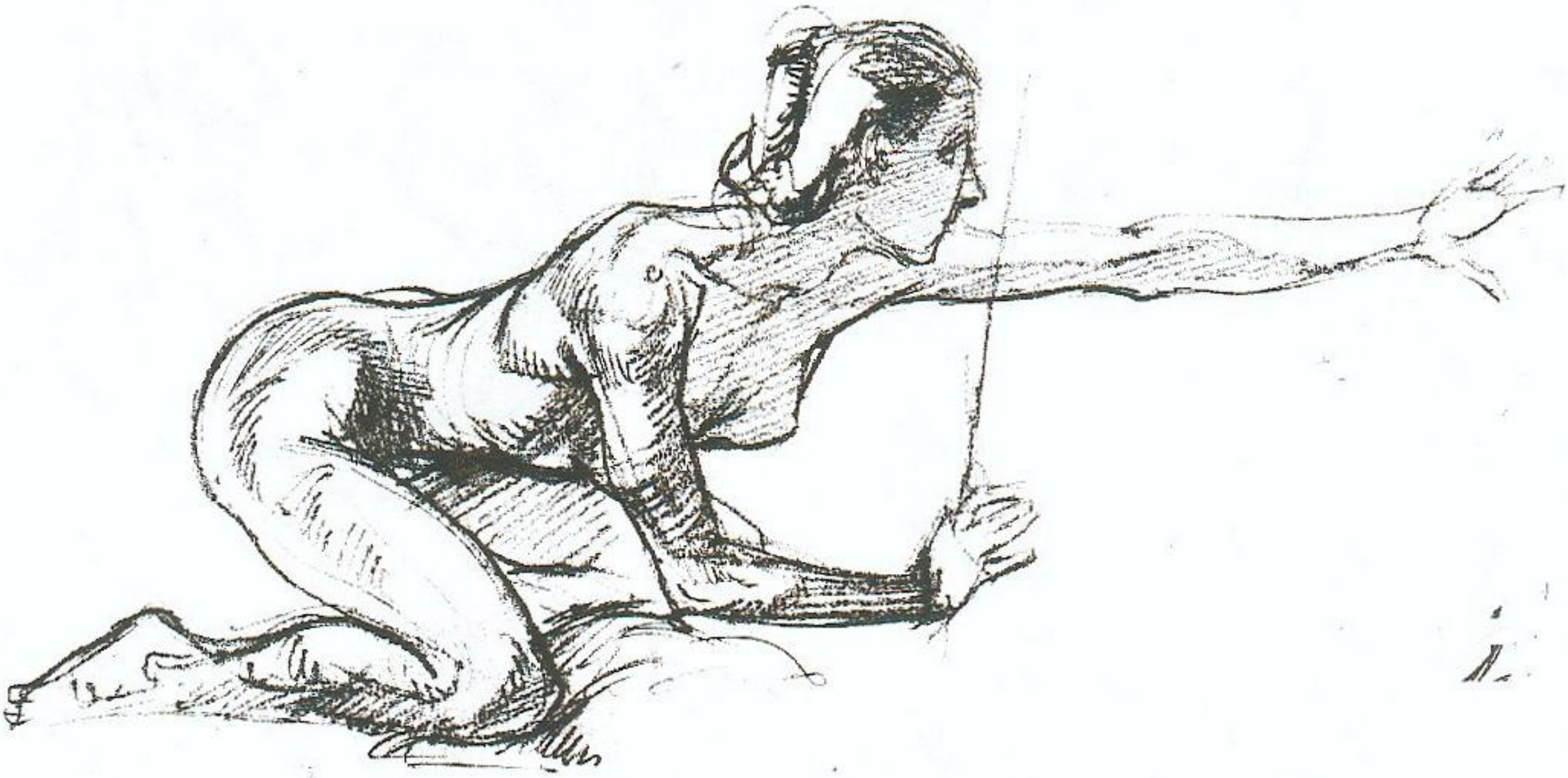


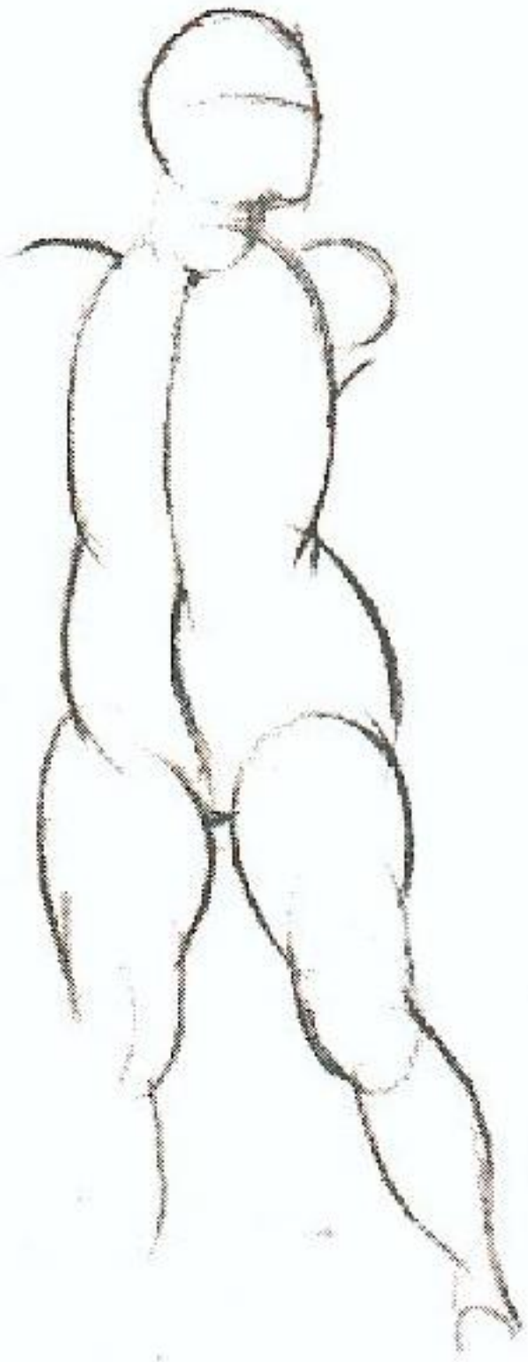


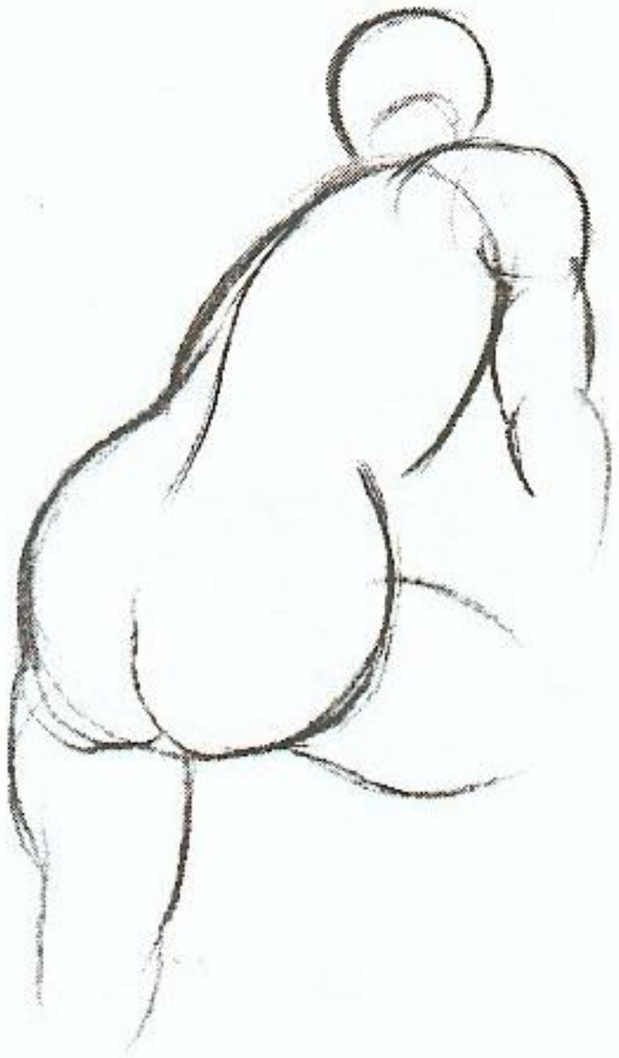




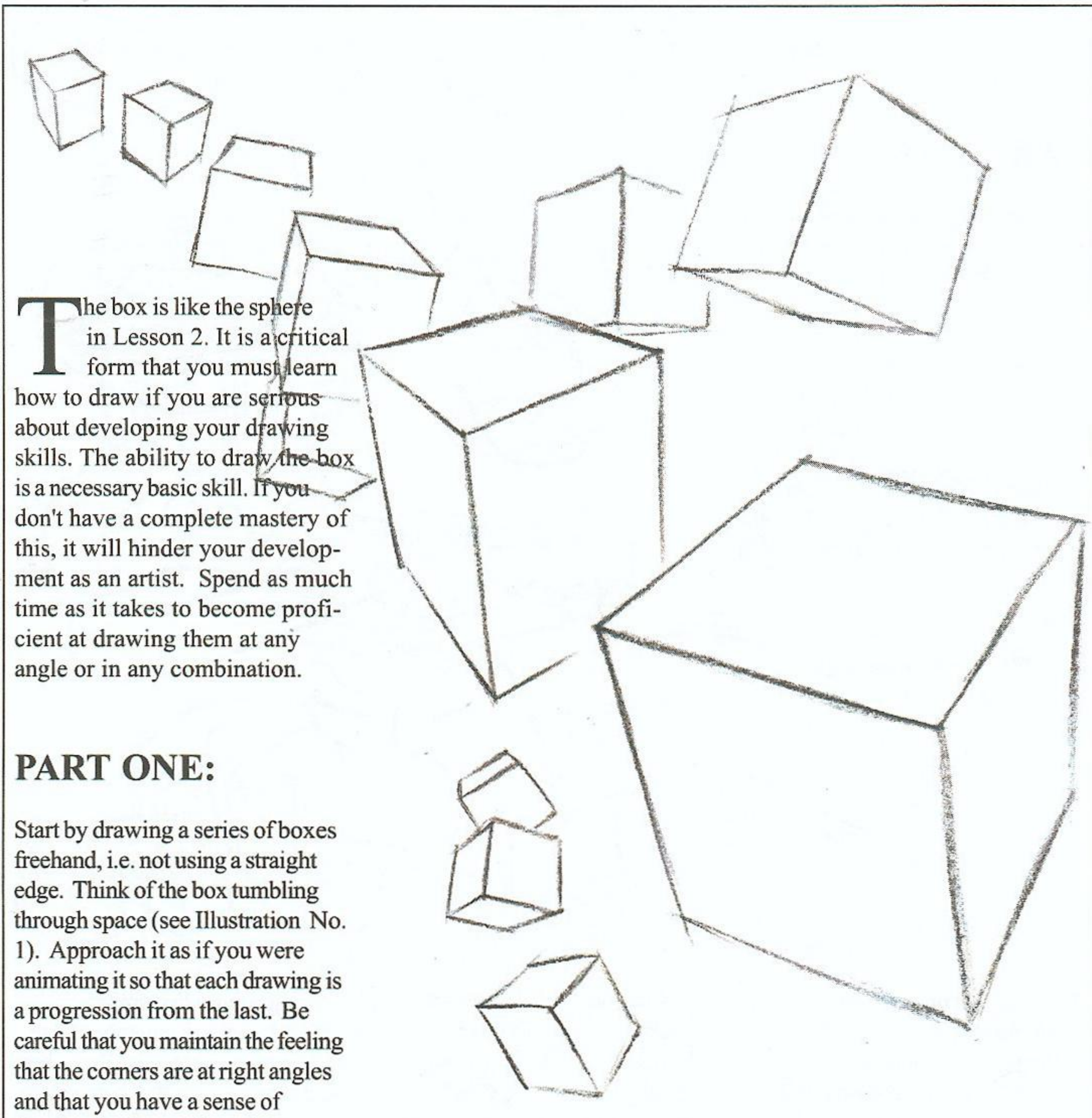








Box Forms



The box is like the sphere in Lesson 2. It is a critical form that you must learn how to draw if you are serious about developing your drawing skills. The ability to draw the box is a necessary basic skill. If you don't have a complete mastery of this, it will hinder your development as an artist. Spend as much time as it takes to become proficient at drawing them at any angle or in any combination.

PART ONE:

Start by drawing a series of boxes freehand, i.e. not using a straight edge. Think of the box tumbling through space (see Illustration No. 1). Approach it as if you were animating it so that each drawing is a progression from the last. Be careful that you maintain the feeling that the corners are at right angles and that you have a sense of foreshortening as the sides recede back in perspective. If you have no knowledge of foreshortening or perspective,

Illustration No. 1

or are having a difficult time with this you should acquire a good book on perspective and take some time to study it. This is a skill that is absolutely necessary in your development as an artist.

PART TWO:

Now let's take this box we have been drawing and round off the sides so that it looks like a bar of soap (see Illustration No. 2). Start by tumbling it through space as we did in part one. After you feel comfortable I want you to see if you can give it life and a personality the same way we did in Lesson 1 (see Illustration No. 3). Have it bend, twist, walk, meet other boxes. Think of fat boxes, thin boxes; in short, become master of the box.

Illustration No. 2

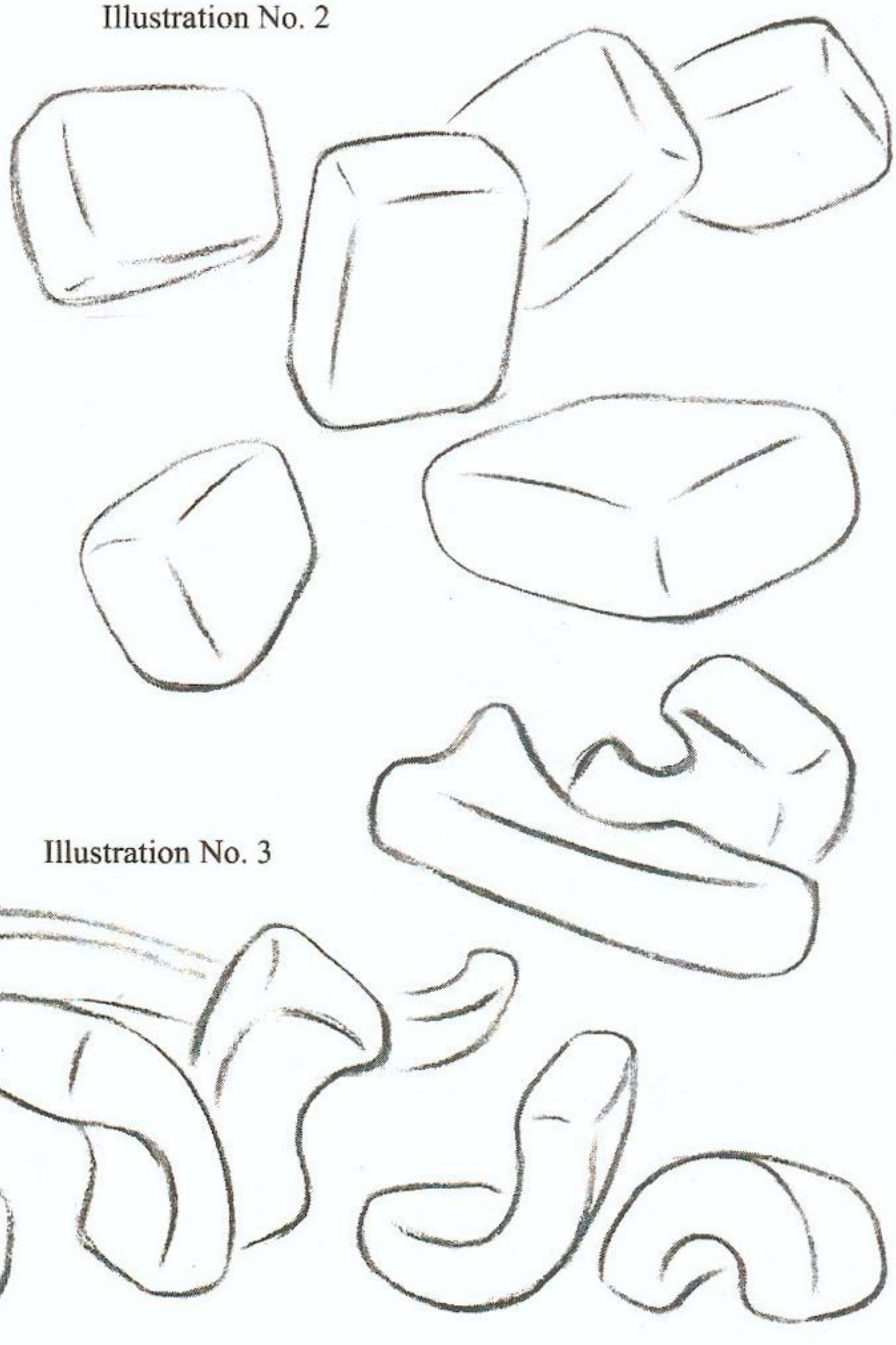
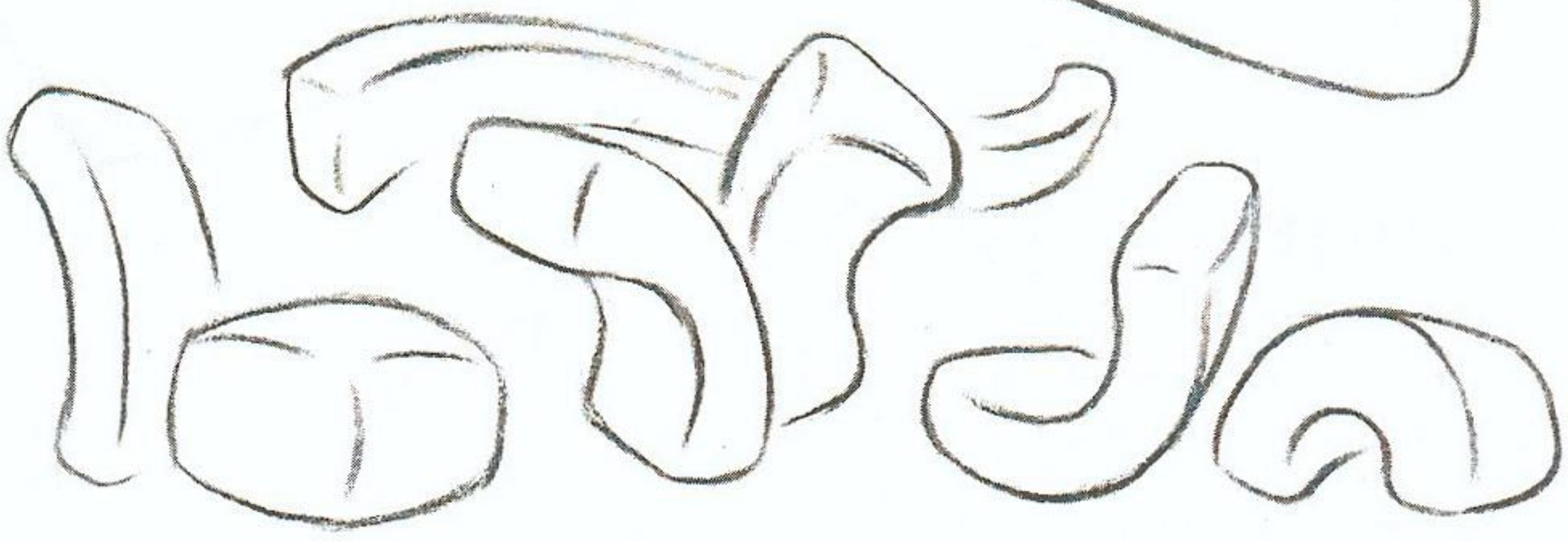


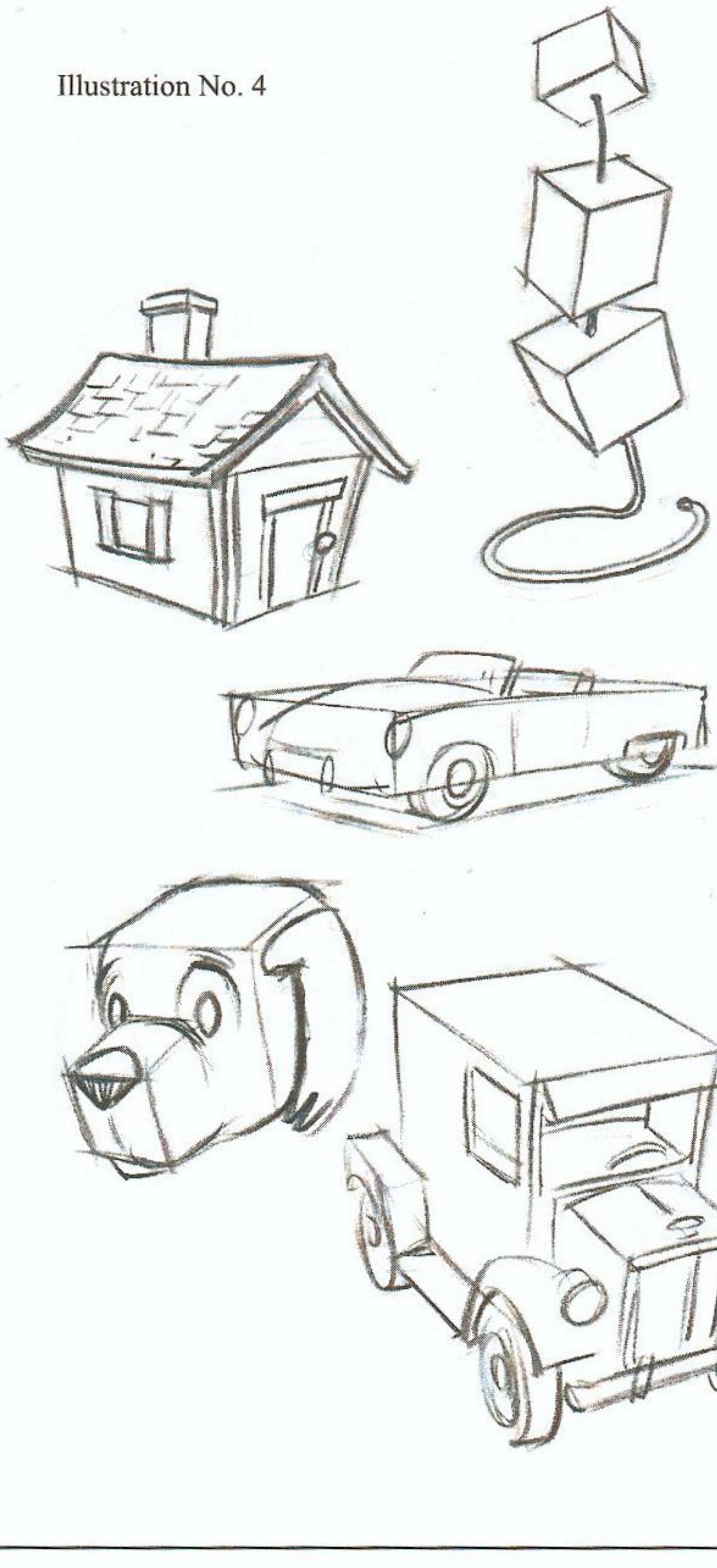
Illustration No. 3

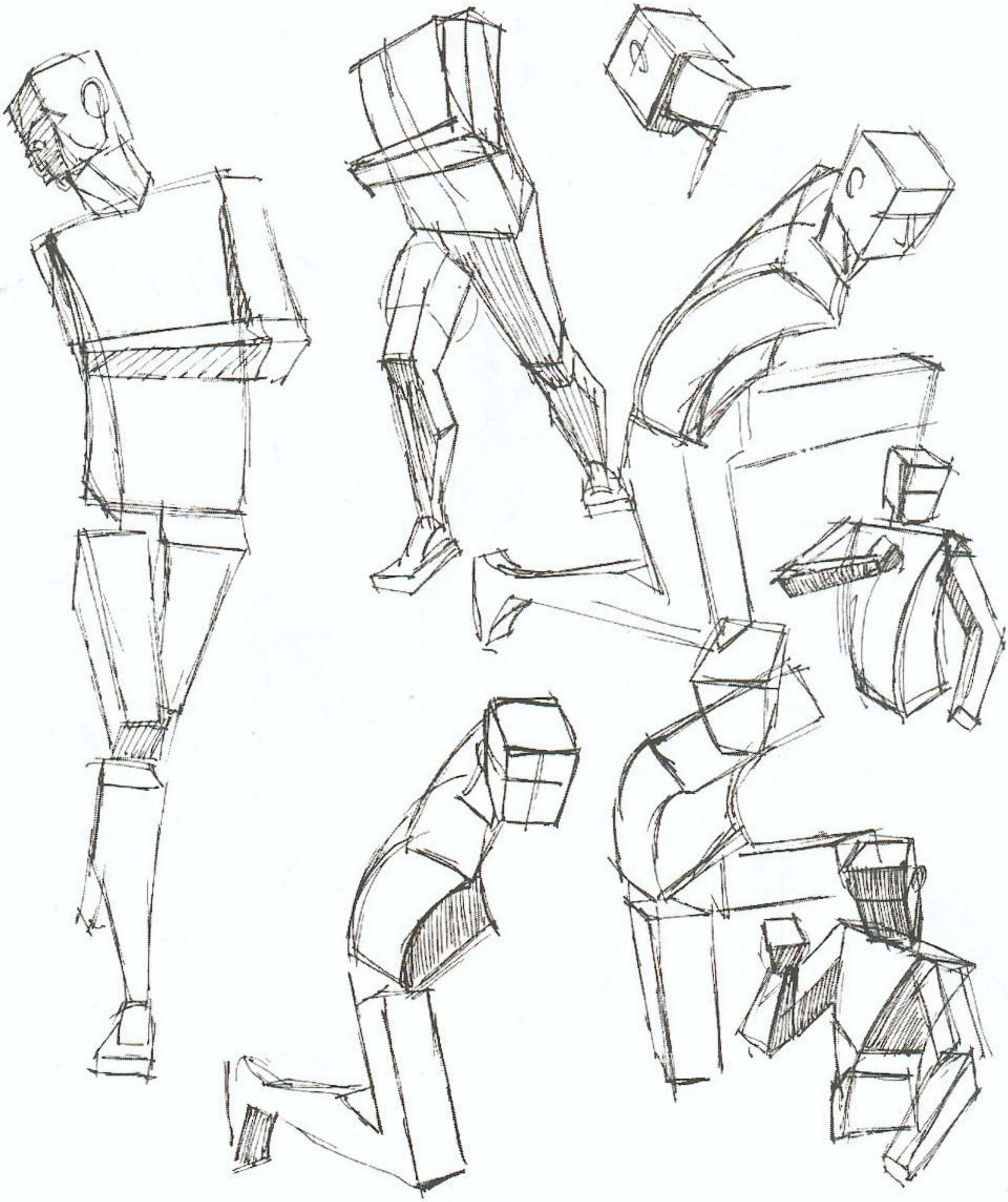


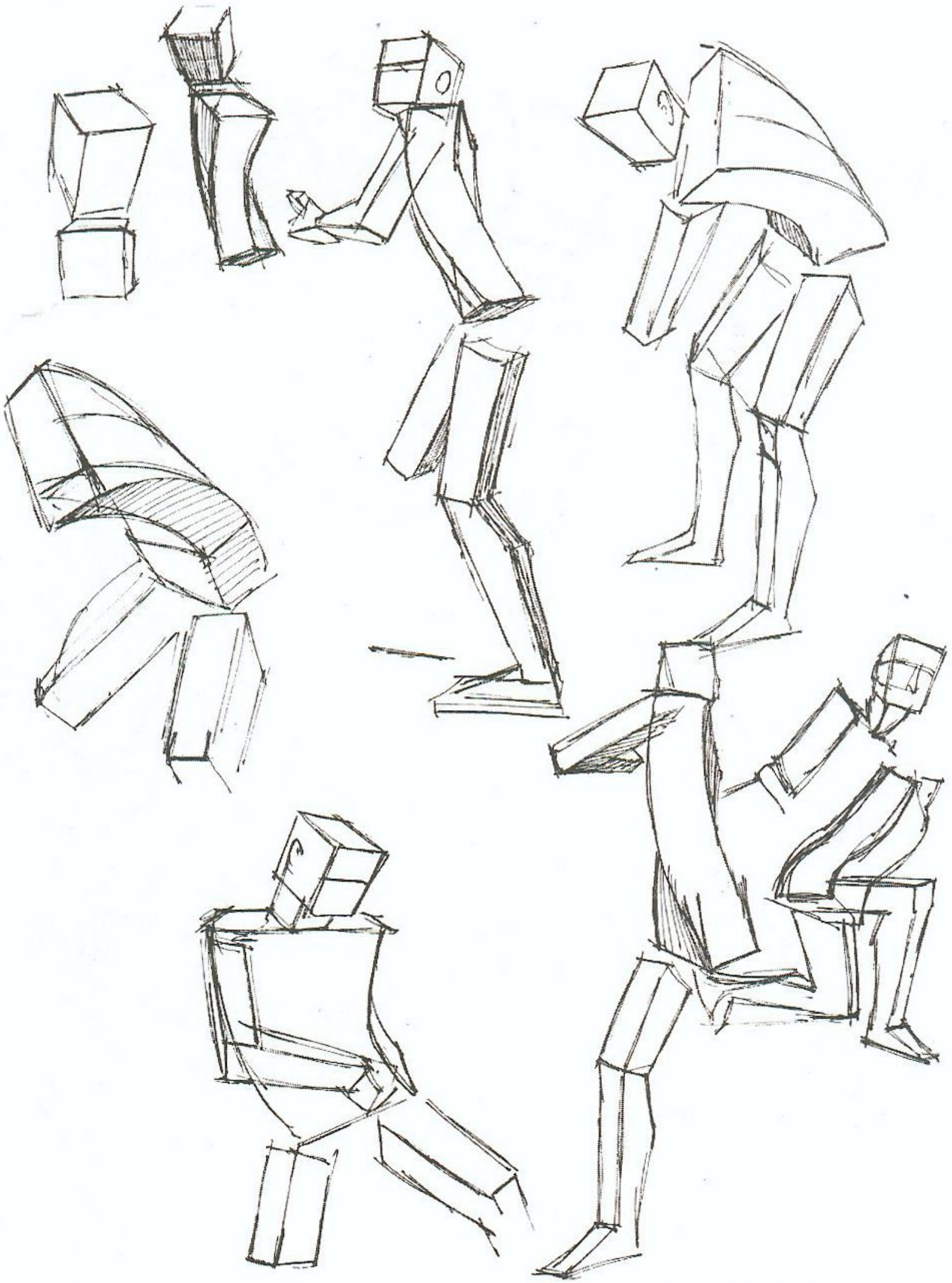
If it helps, set up some boxes. You could suspend some from the ceiling by string or wire. It would even help to make a box mannikin to draw from, using blocks of wood and wire (see Illustration No. 4).

It is easy to relate houses, cars, and other inherently boxlike forms to our simple box. Look carefully at the other examples on these pages to see how the box was used to help draw them. Sometimes we use the box as a starting point when drawing difficult angles. Remember, there are no rules, just tools. The sphere and box are tools that help you to understand complex forms and enable you to successfully depict them in three dimensional space.

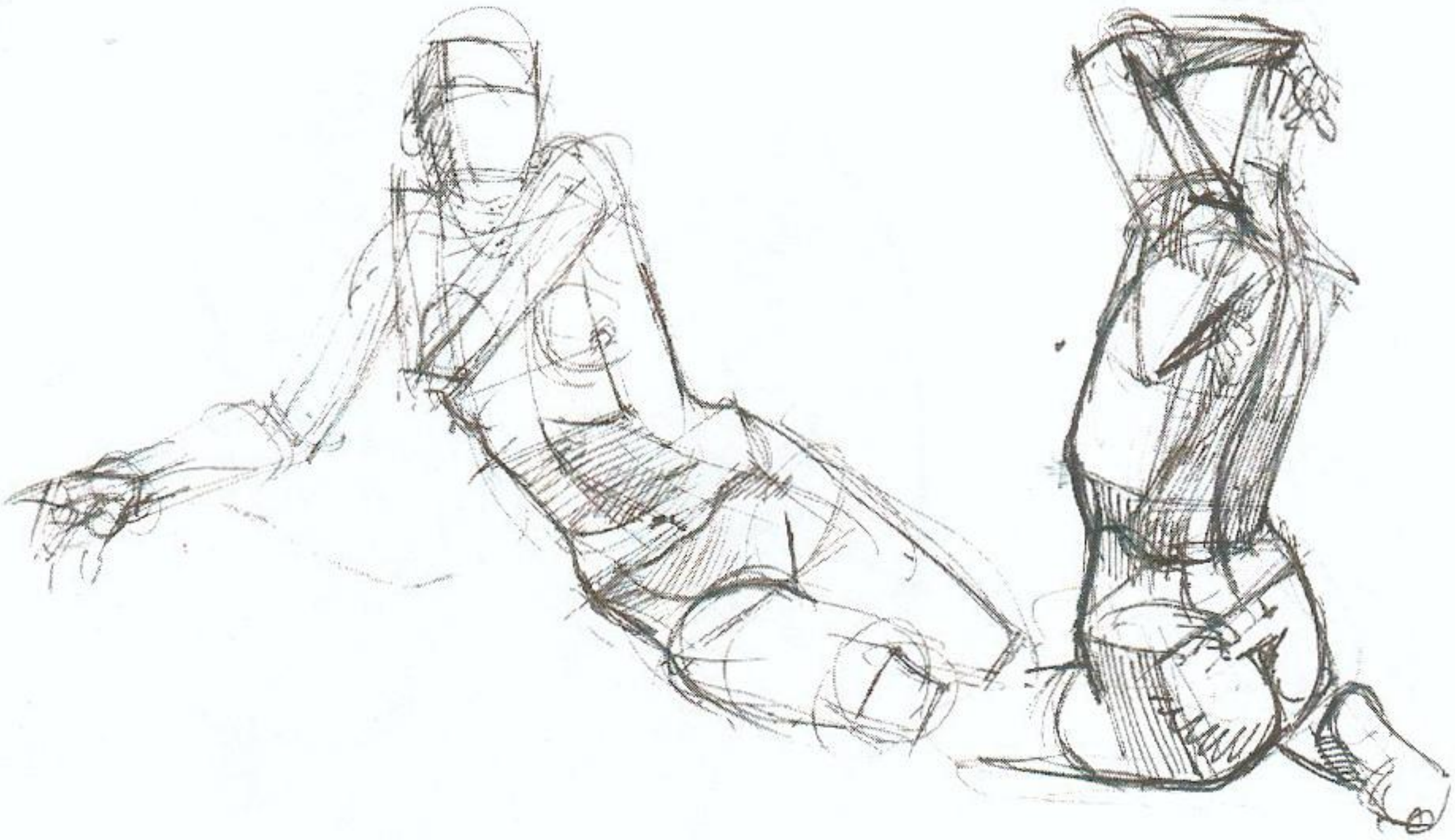
Illustration No. 4

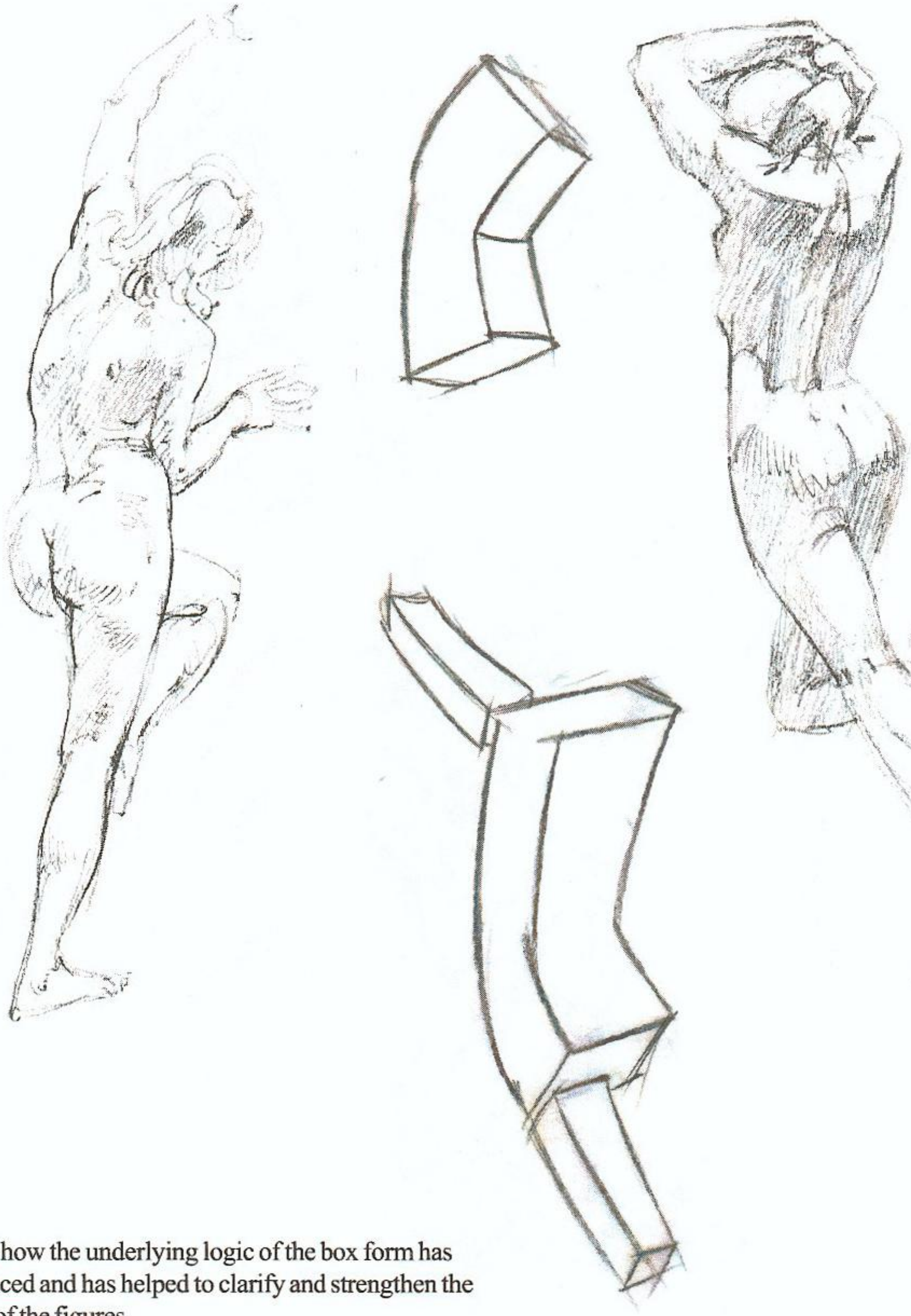






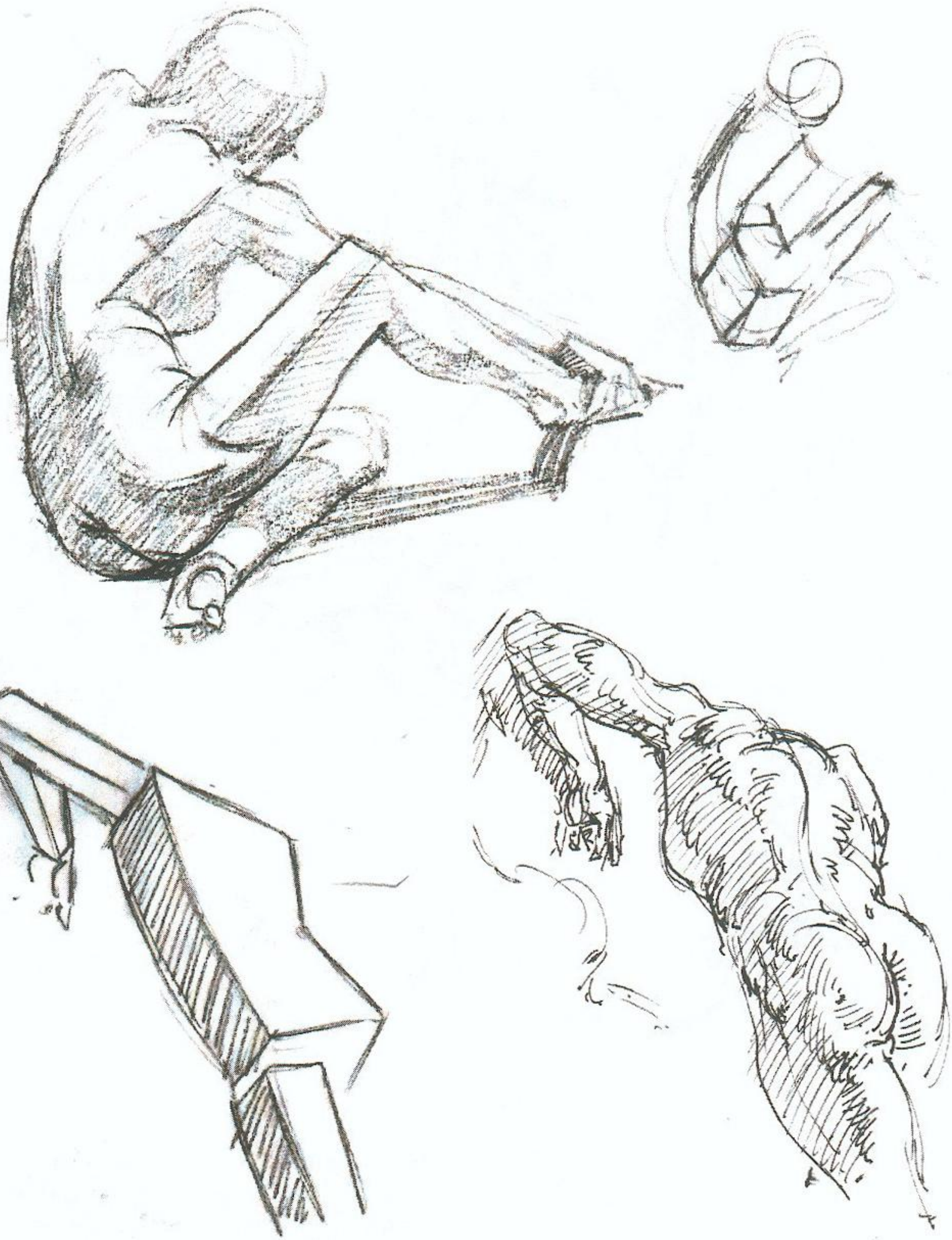
Remember, the boxed form is a tool to help you see more clearly, an aid in organizing what you see in a way that becomes ever useful, clarifying spacial relationships and the interaction of the various parts. The drawing becomes much clearer not only to you but to the viewer as well.

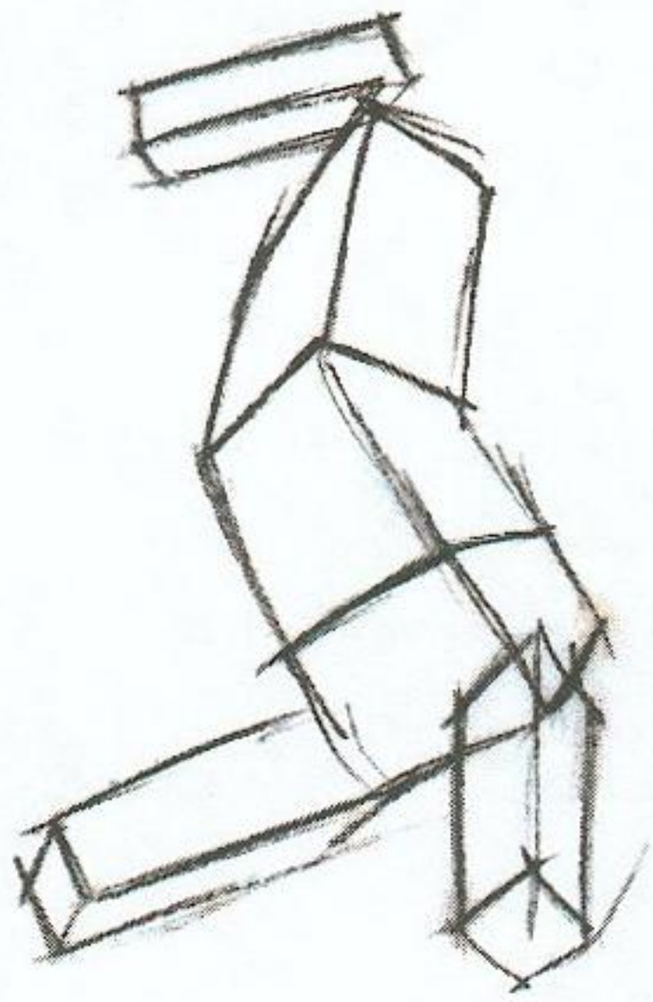


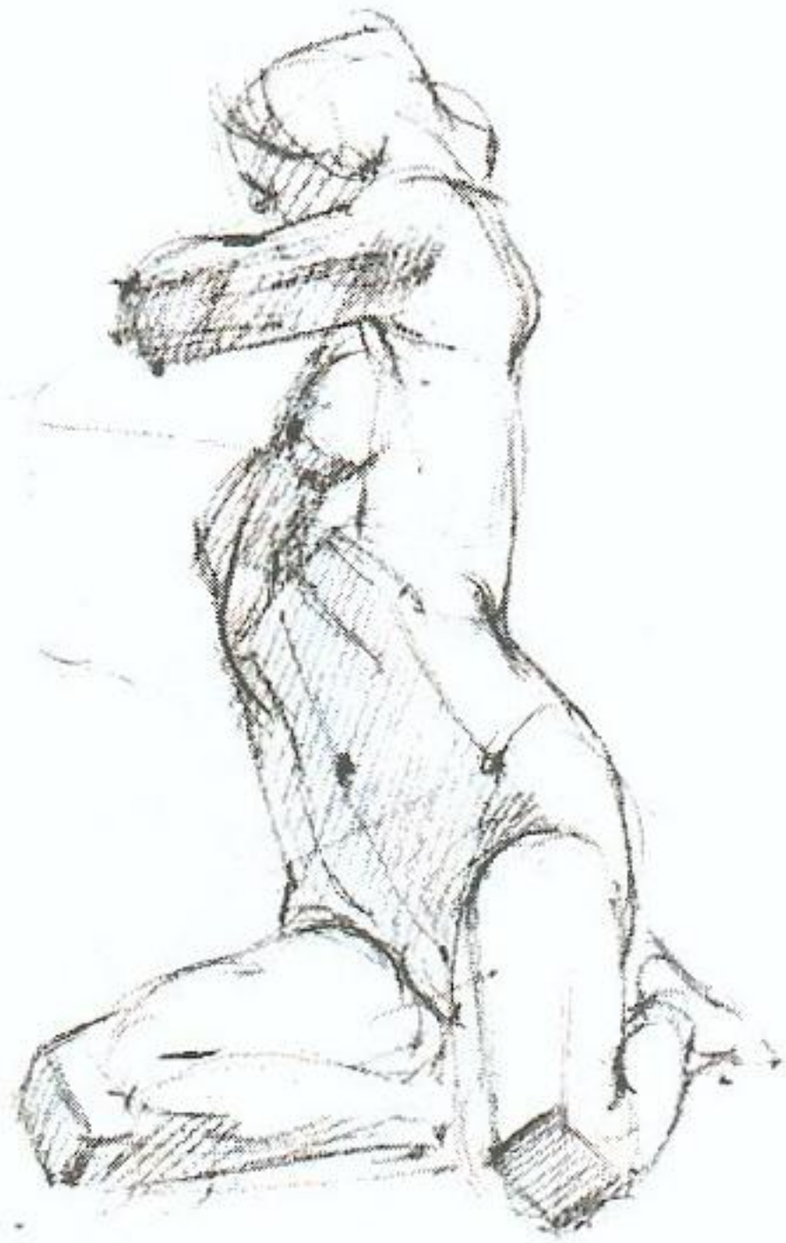


Notice how the underlying logic of the box form has influenced and has helped to clarify and strengthen the action of the figures.

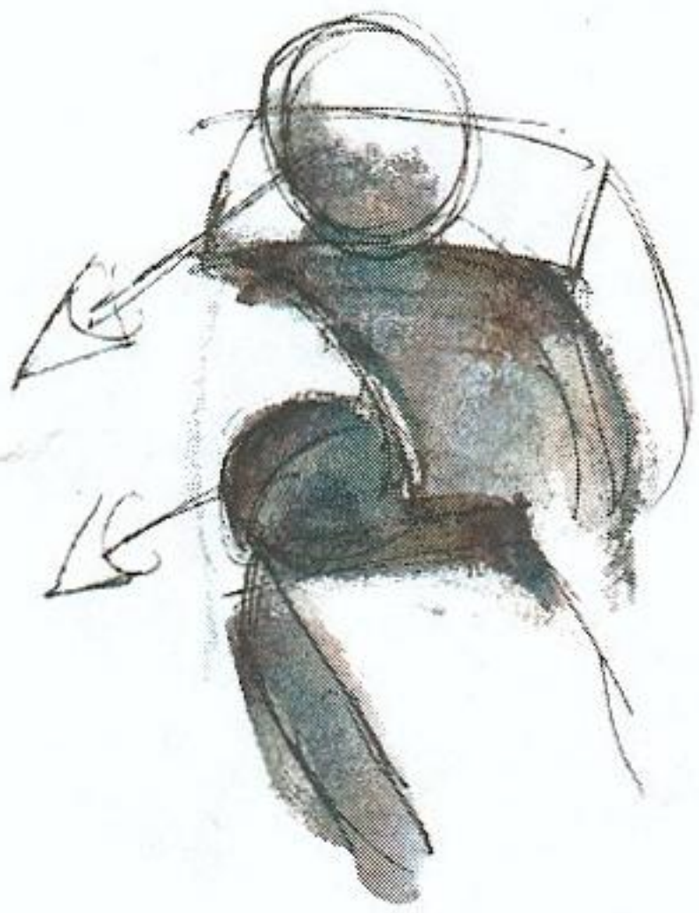
The drawing to the left, even as a quick sketch, clearly shows the use of the corners of the form as shown in the progressive analysis of the drawings above.



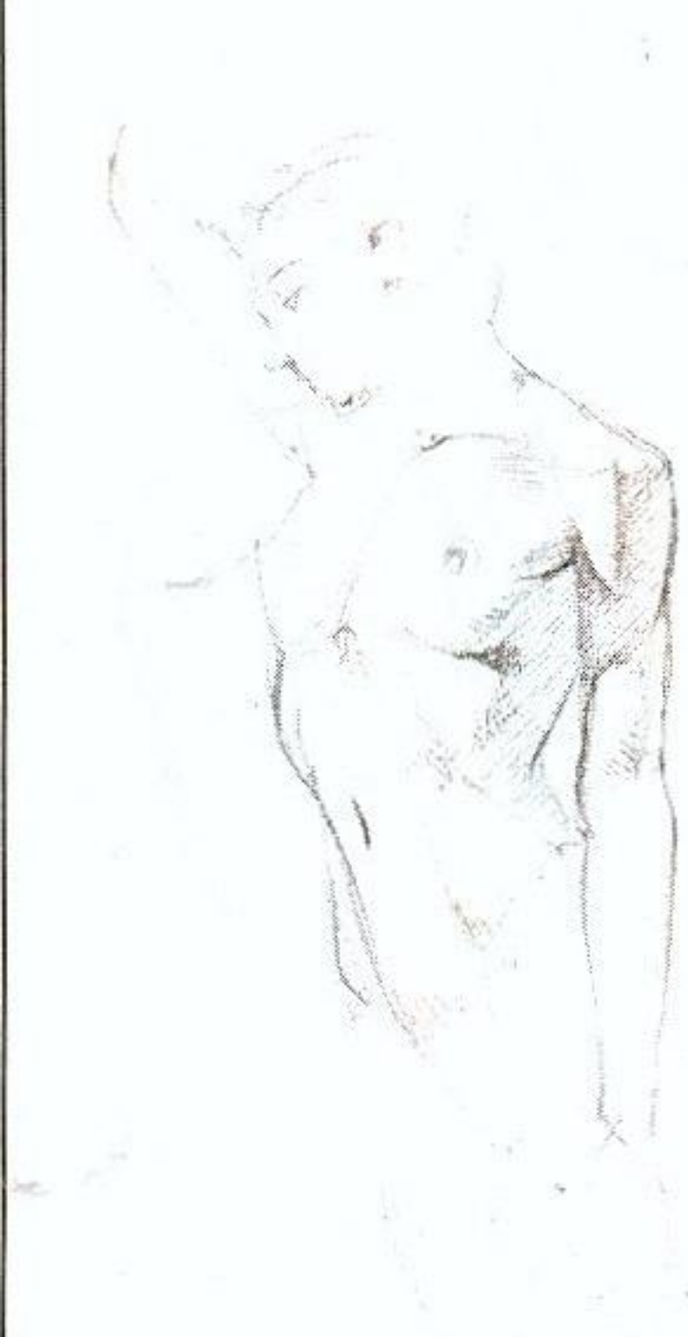


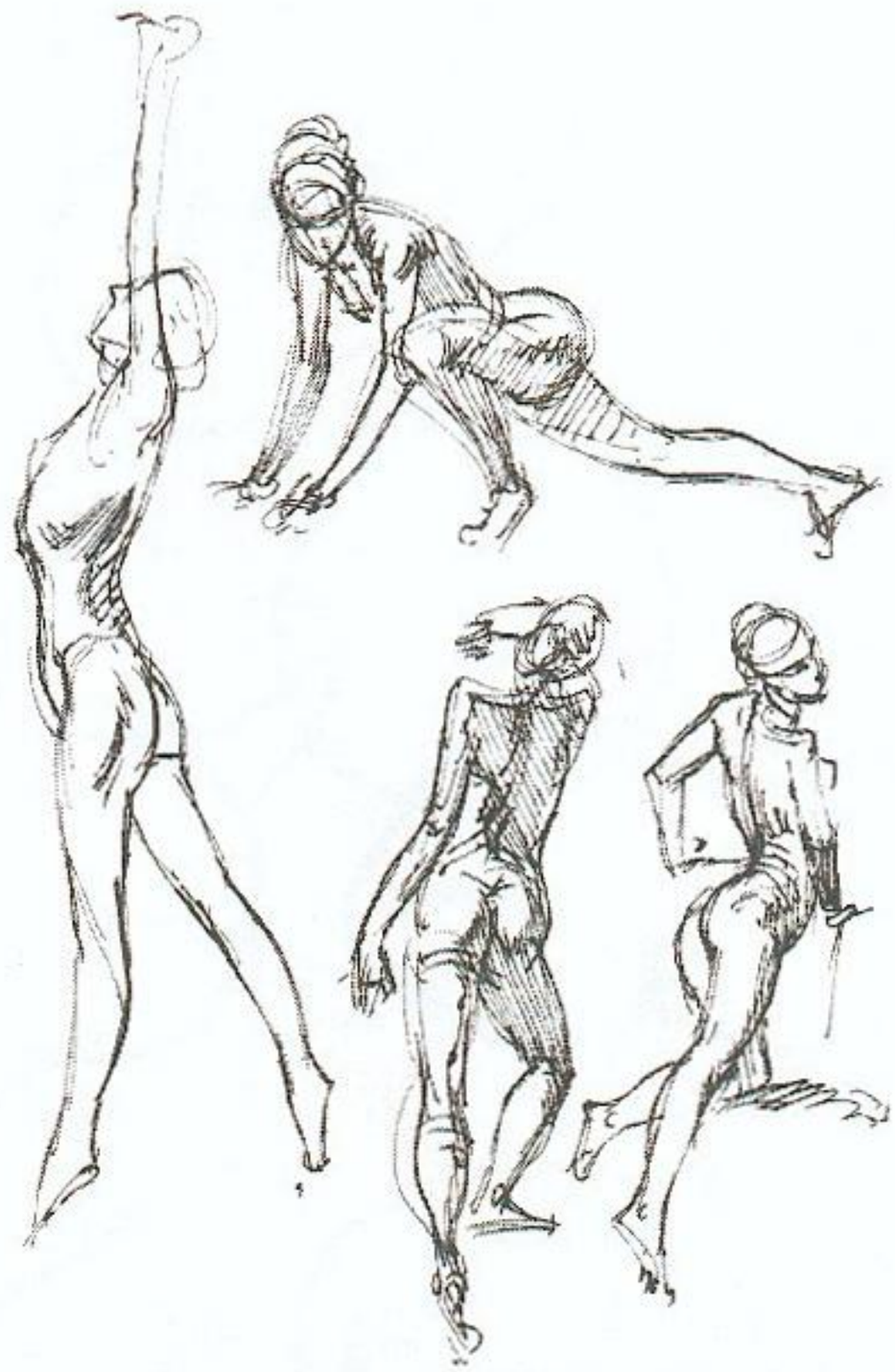


Tintoretto



Combining Spheres and Boxes





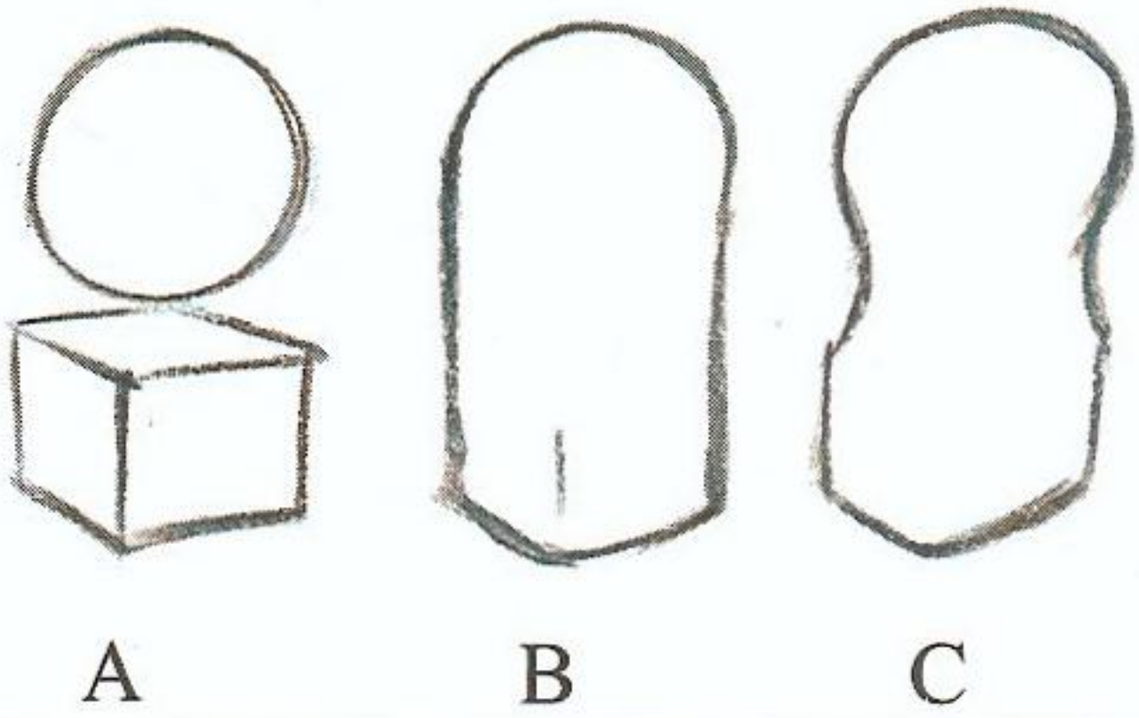
In lesson 2 & 3 we developed our skills at handling spheres and boxes, manipulating them, and giving them personalities. In this lesson, we combine them and at the same time introduce two new elements.

PART ONE:

Start by placing a sphere over a box; they should be roughly equal in size (see Illustration No. 1). The next step is very important. Draw Illustration No. l-A again, but this time do it as if it were covered by some form of material. Feel the form underneath. Feel where it leaves the surface of the sphere and stretches over to the edges of the box (B). Now make the material be a little tight or elastic so that it comes in at the waist (C).

It is important to be able to feel the form underneath in order to draw it. Try to imagine that your pencil is on the surface of the object rather than on the paper.

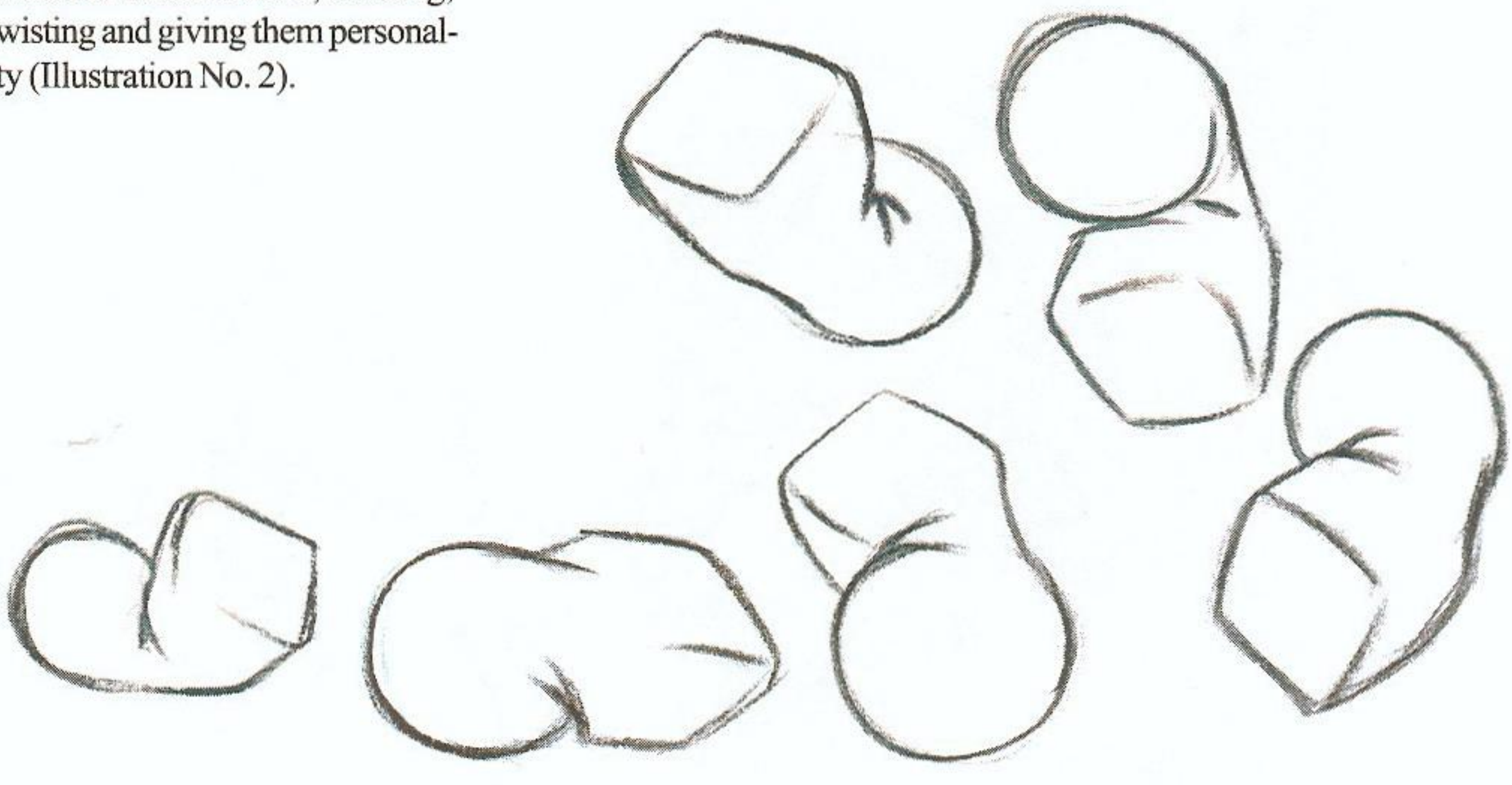
Illustration No. 1



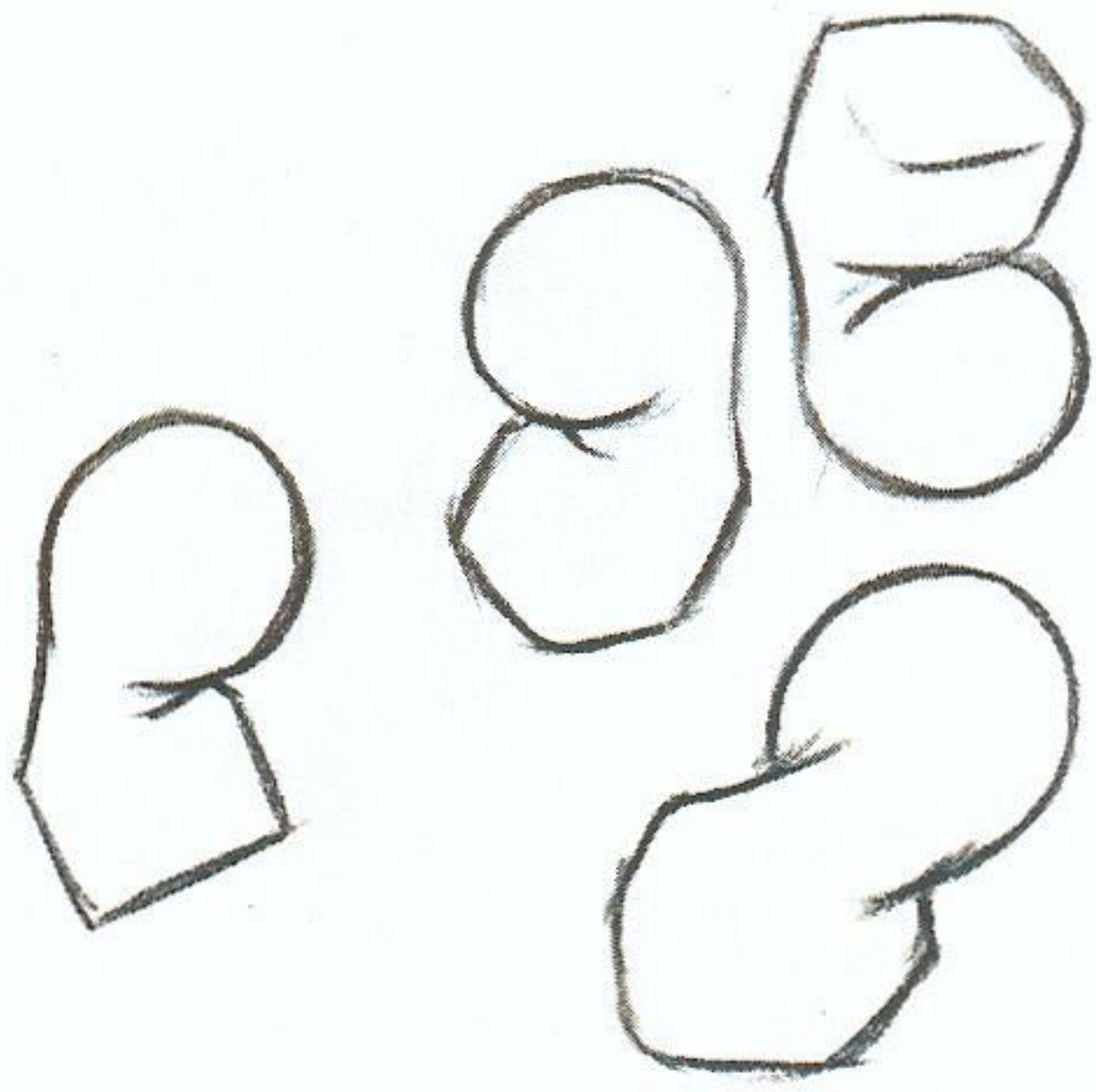
A B C

Now let us start to work with these new forms in the same way we did in lessons 2 & 3, bending, twisting and giving them personality (Illustration No. 2).

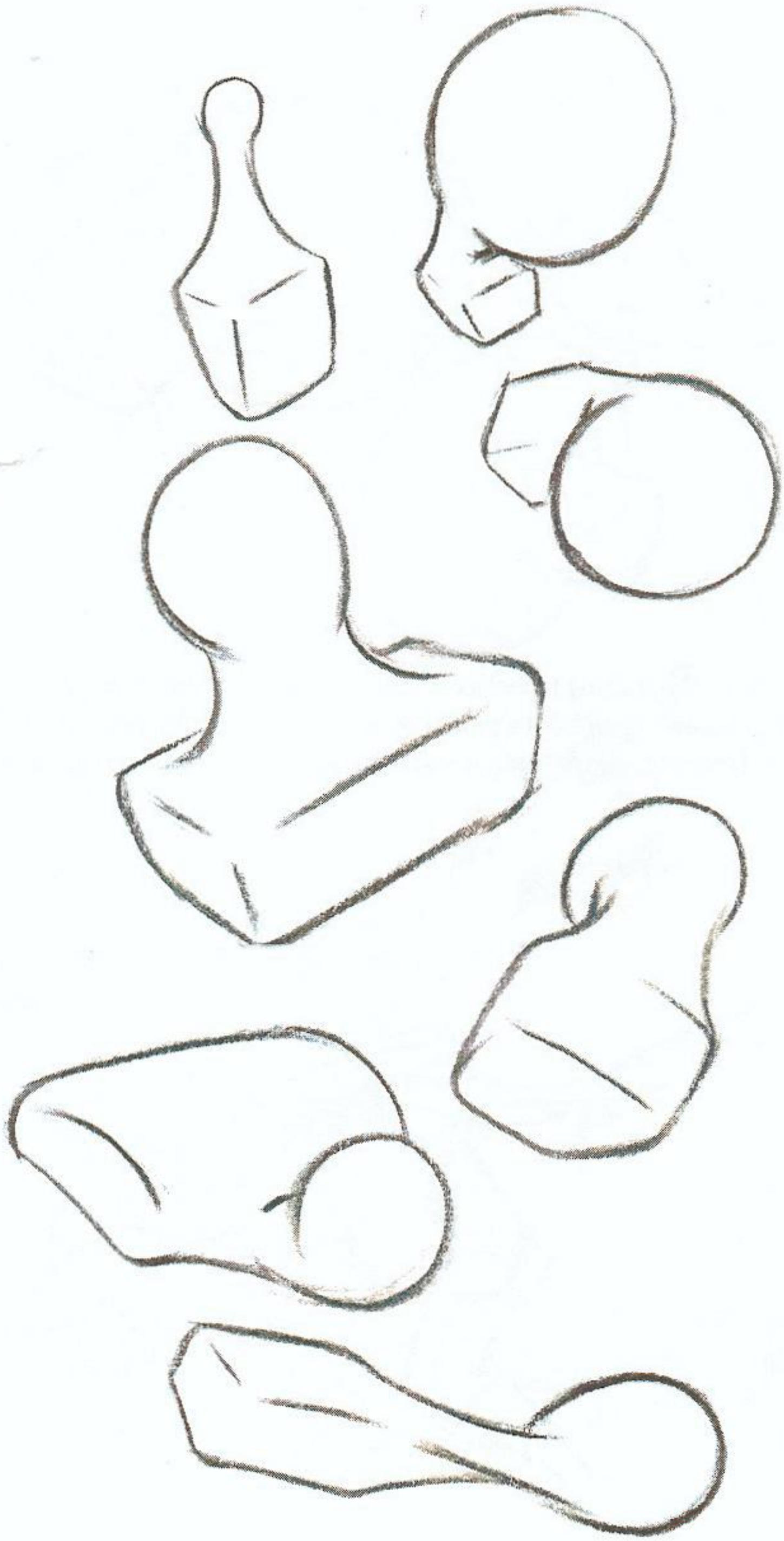
Illustration No.2



Notice the pinch and stretch as the forms bend and twist. Don't forget the use of overlapping forms in creating the feeling of volume.



Again, this is one of those exercises that you should spend a lot of time on; the simplicity of its look is deceptive.

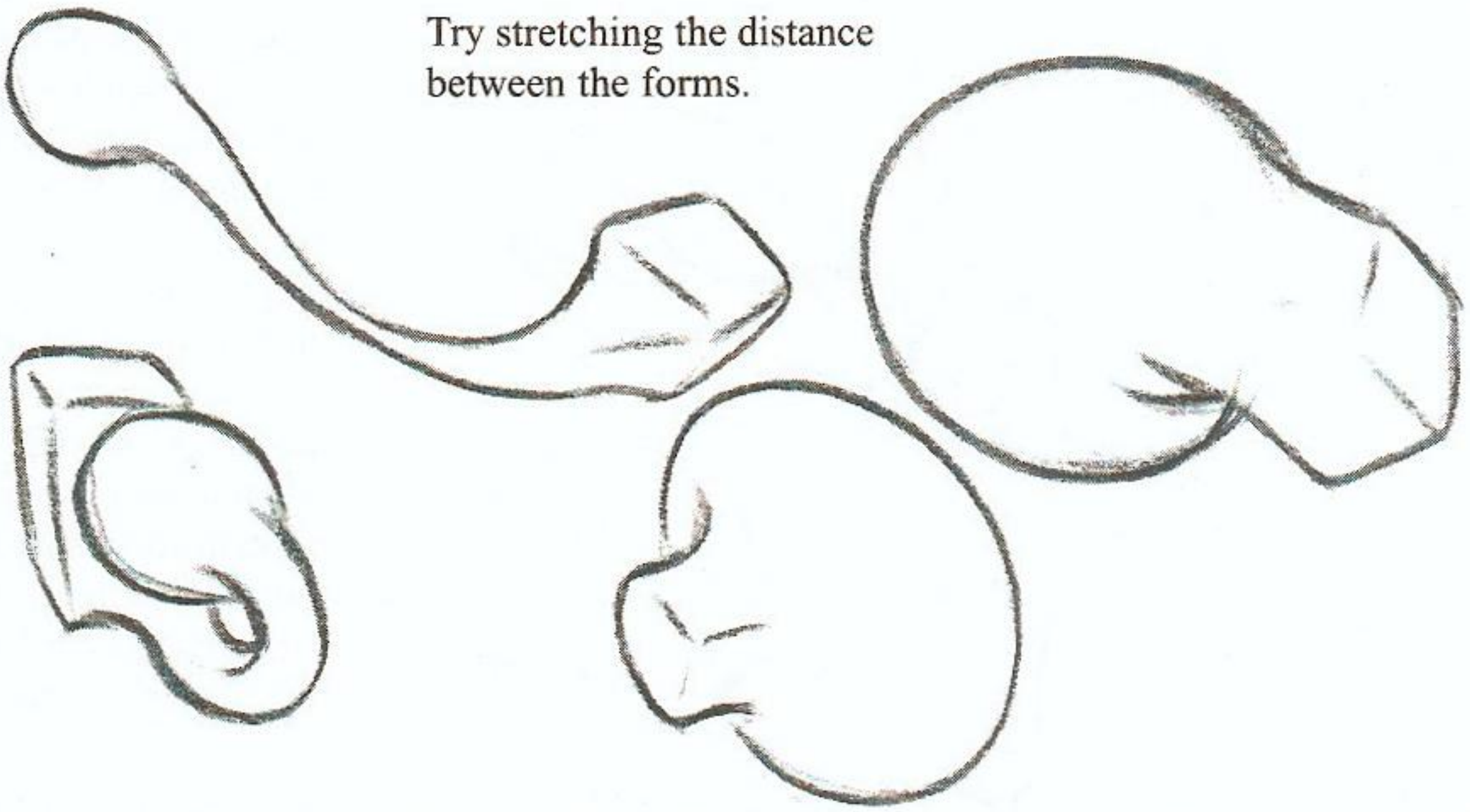


Part Two:

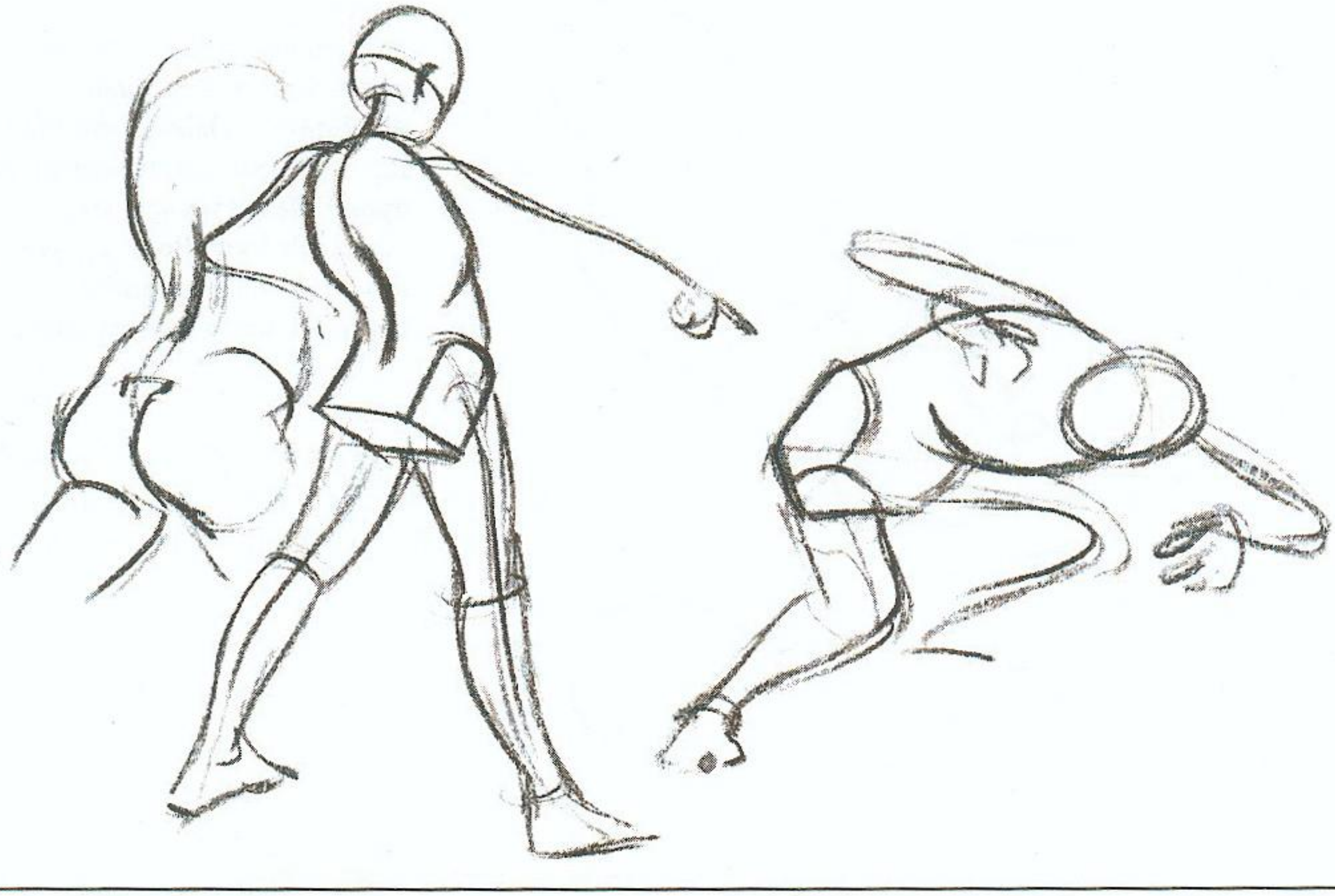
Now let us introduce some variety into what we are doing and at the same time open up the possibilities. In Part One, the sphere and box were roughly the same size. Start introducing **proportion** into the drawing in a controlled manner. Proportion is the relationship of various elements in a drawing which include size, tone, textures, quantities and differences that give expression or character to the work.

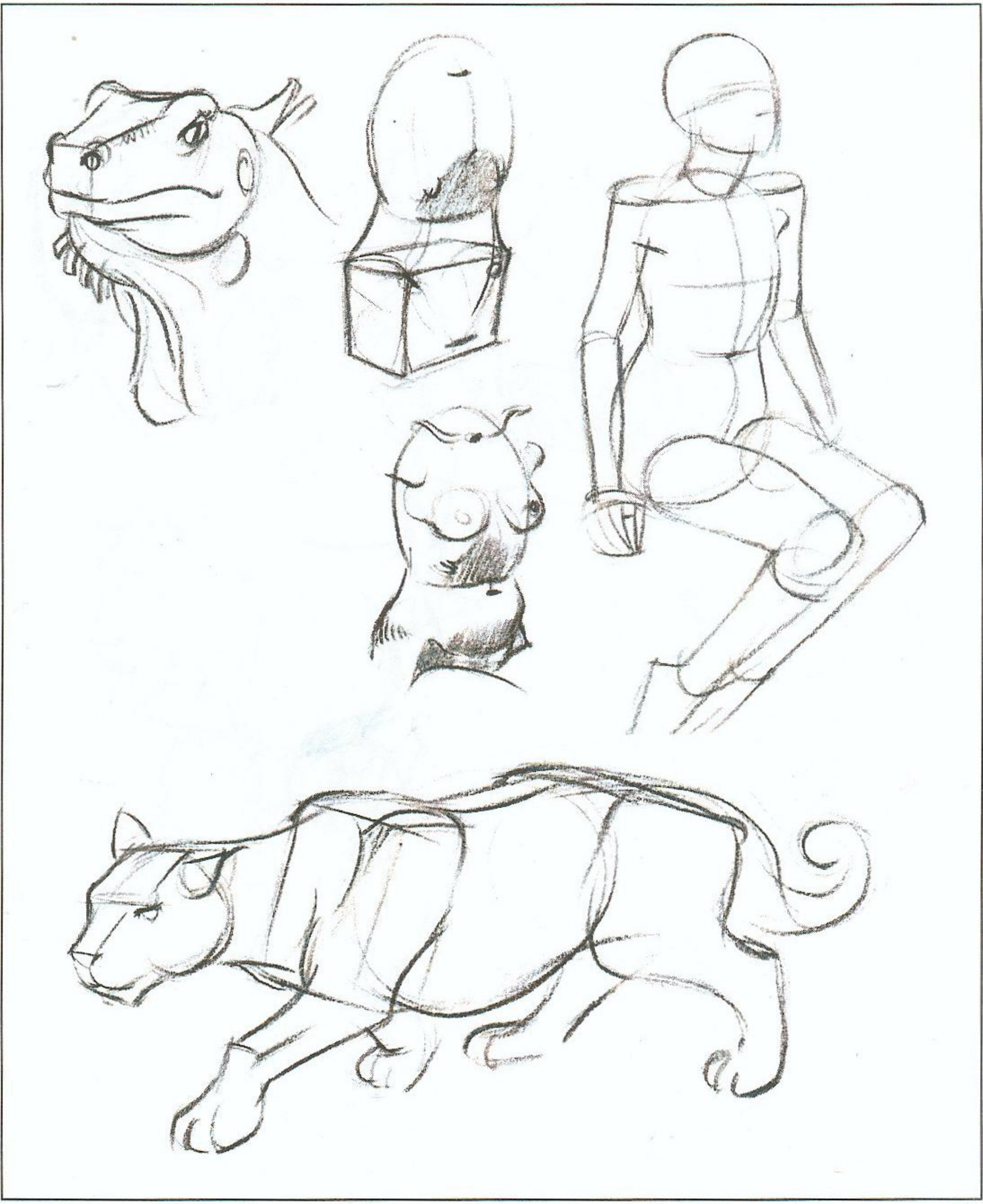
Proportion can be the size of the head to the body or just simply a large form to a small form. Artists have spent their whole careers trying to find ideal proportions in their work. We will look more deeply into proportion in a later lesson, but for now I want you to have fun trying different possibilities with our simple form. Be as creative as you can be. **Remember, there are no rules, just tools.**

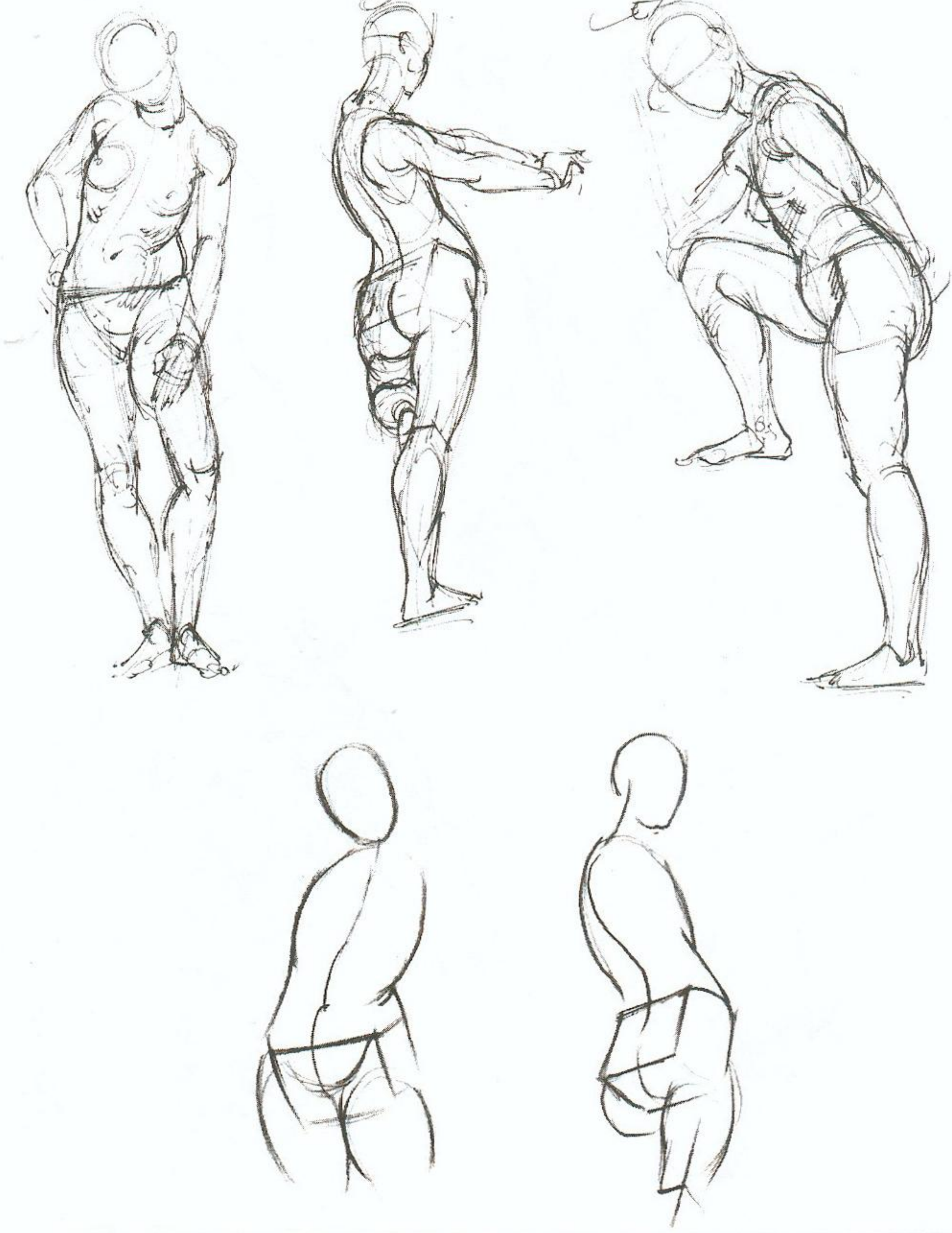
Try stretching the distance between the forms.

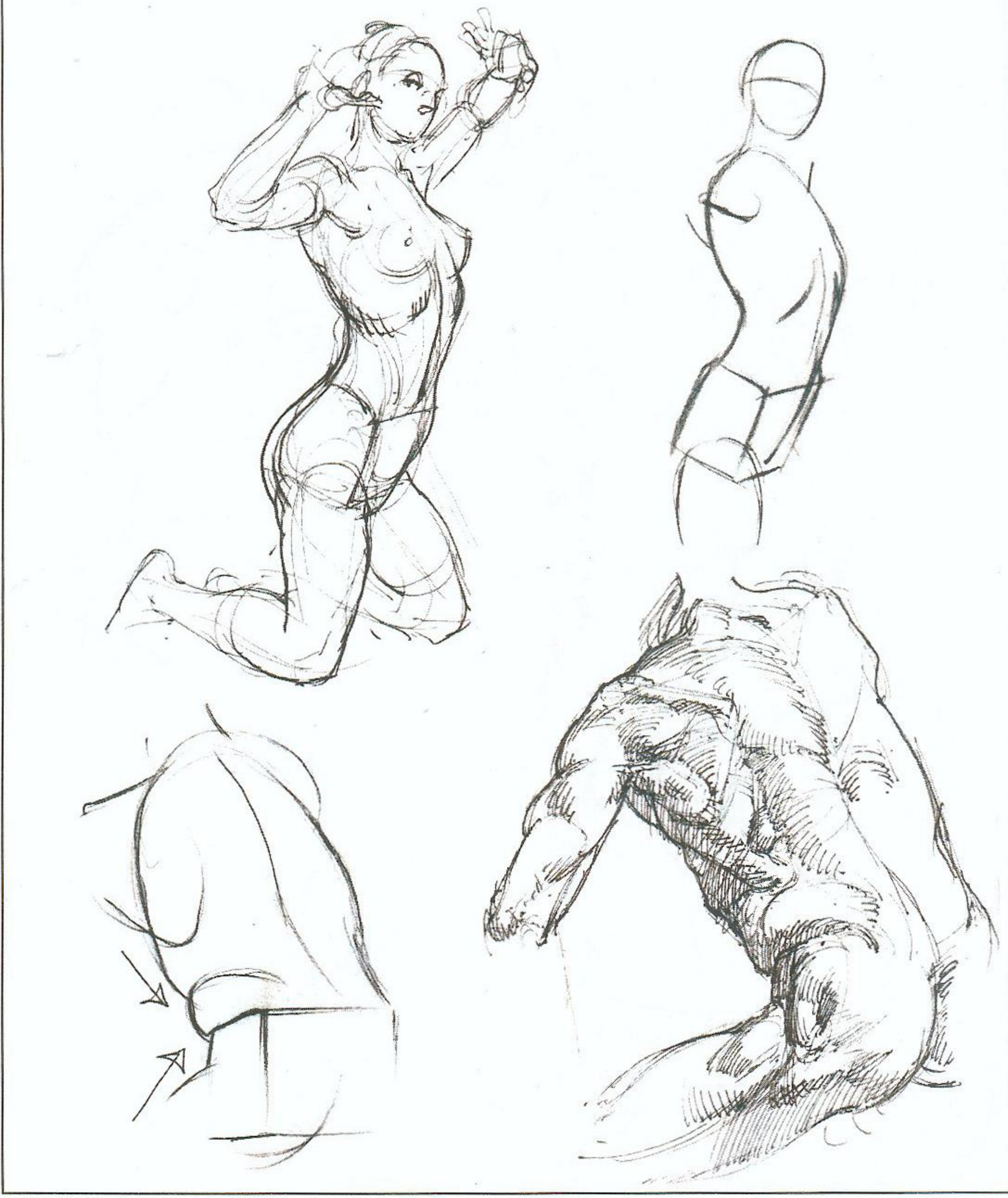


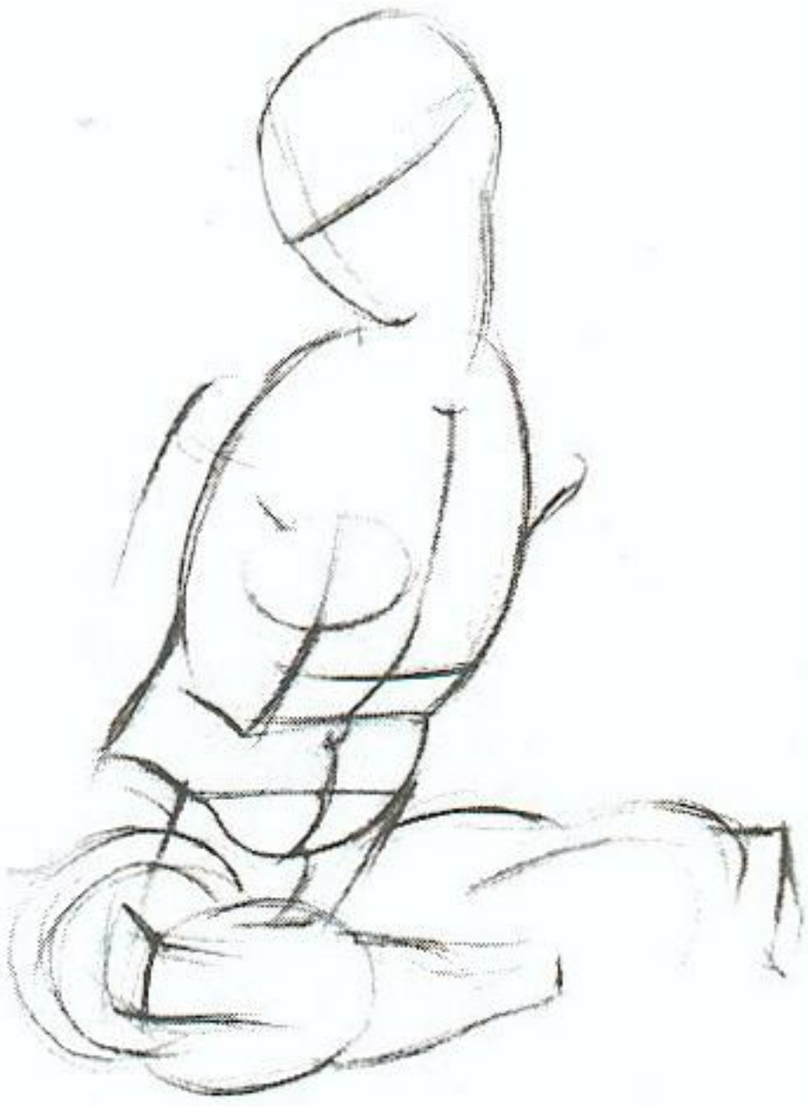
You should be starting to feel a certain amount of flexibility and confidence in drawing without a model by now. In the next lesson, we will expand more on that before we start discussing drawing from the model.

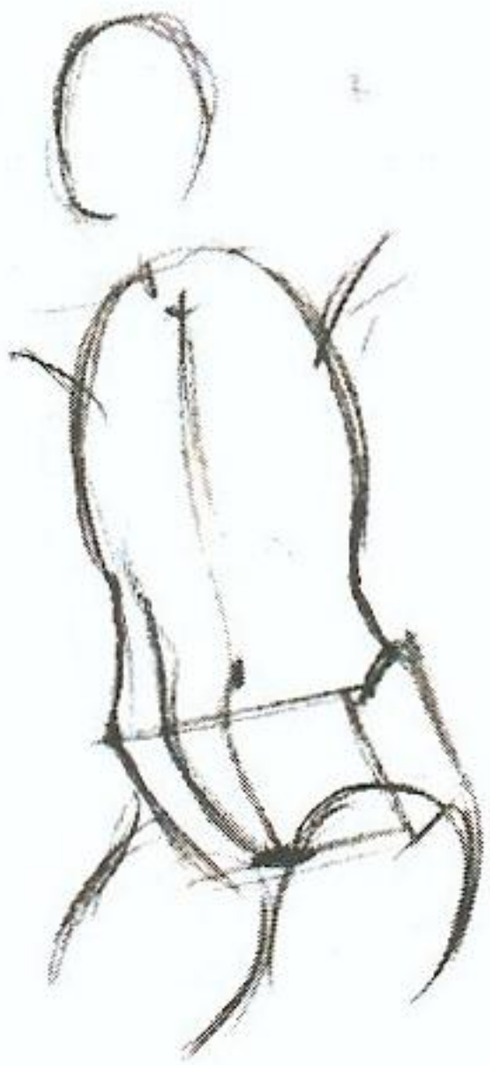


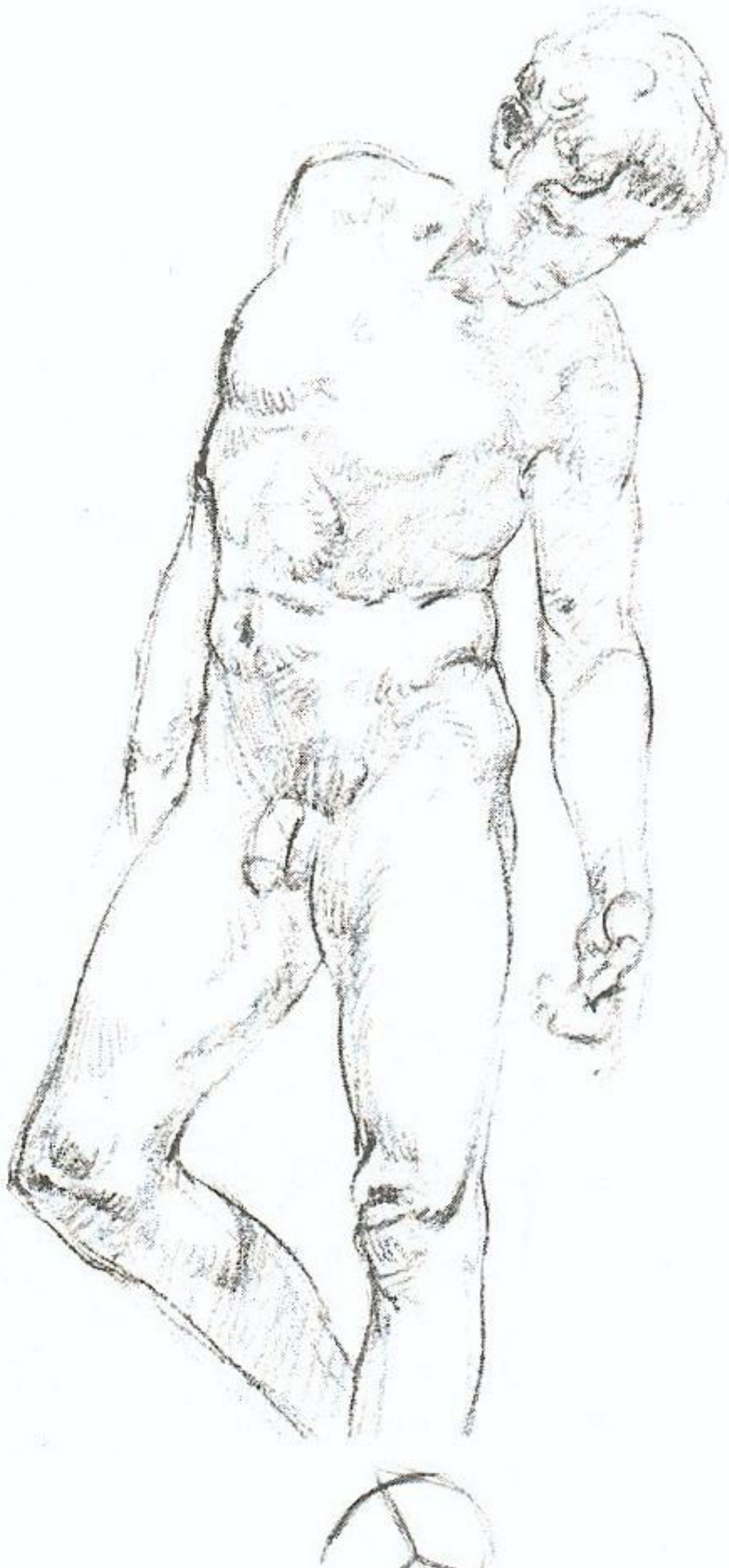


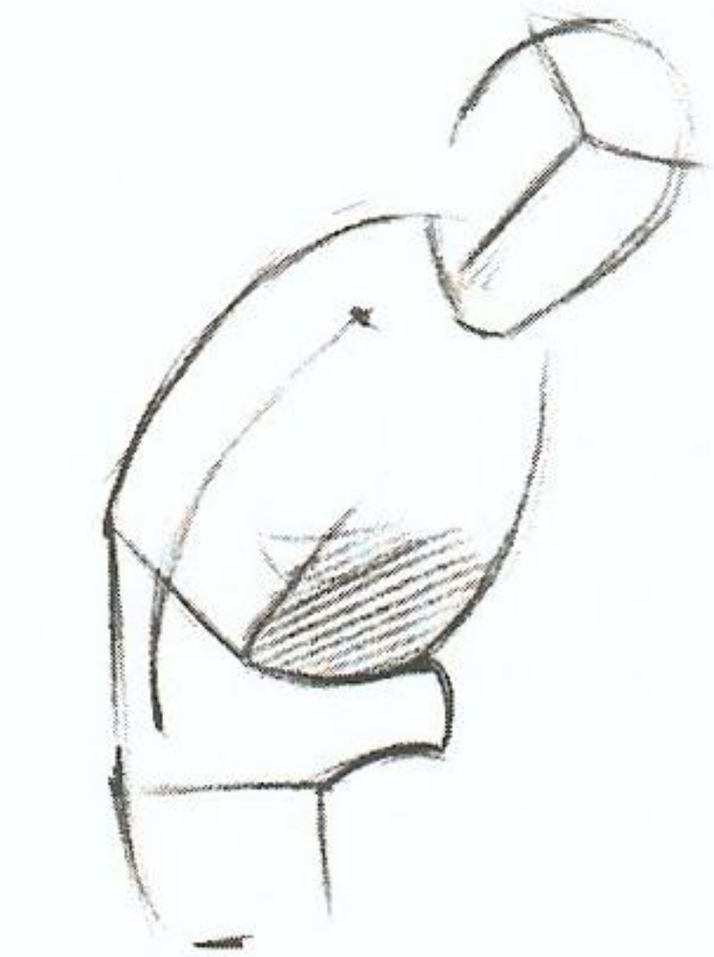








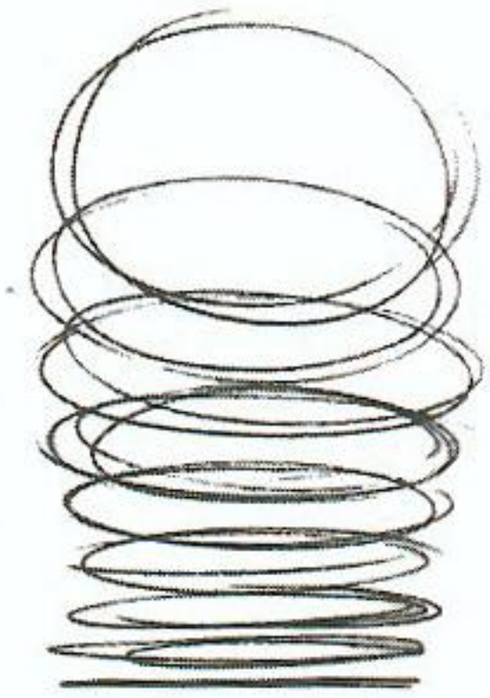




Ellipses and Cylinders

In the first four lessons we have been basically dealing with the torso of either human, animal or cartoon characters without actually calling them that. In this lesson we want to expand on that direction by adding appendages to these basic forms. The primary skill required to do this is being able to draw cylinders.

A cylinder is essentially two ellipses connected by straight lines and, of course, an ellipse is a circle in perspective (Illustration No. 1).



Let's first develop some basic skills for drawing ellipses. To start with, you need to rely on drawing more with a total arm movement than with your fingers. Practice drawing ellipses that begin with a straight line and come to a full circle (Illustration No. 2). Visualize a cross section of a hose, or a simple computer wire frame of a cylindrical form. Albrecht Durer (1471 - 1528) in his Dresdon sketchbook shows many variations on an analytical constructive approach to drawing the figure. ("Albrecht Durer the Human Figure," Dover Publications, Inc., New York.)

Illustration No. 2

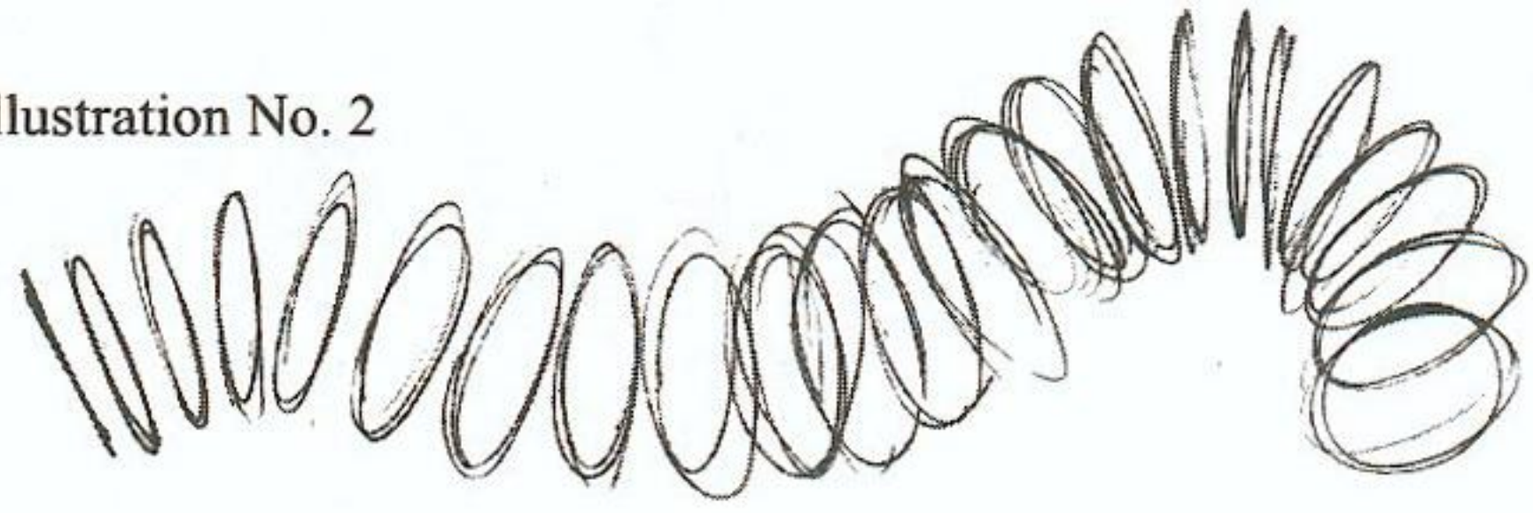


Illustration No. 1

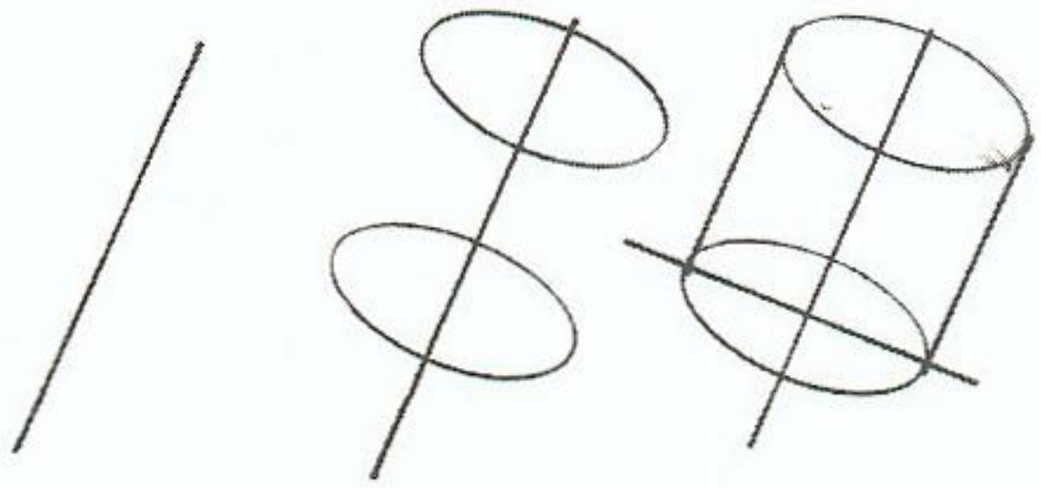
"A cylinder is essentially two ellipses connected by straight lines."

Now try some drawings where you make these tubes cross each other and interwine (Illustration No. 3).

Illustration No. 3

In drawing a cylinder, the two most important elements are the angle or axis of the cylinder, and the beginning and end of the cylinder. Illustration No. 4 shows a basic procedure for approaching the drawing of a cylinder. First, draw a line indicating the centerline. Then, draw the ellipses defining the ends of the cylinder.

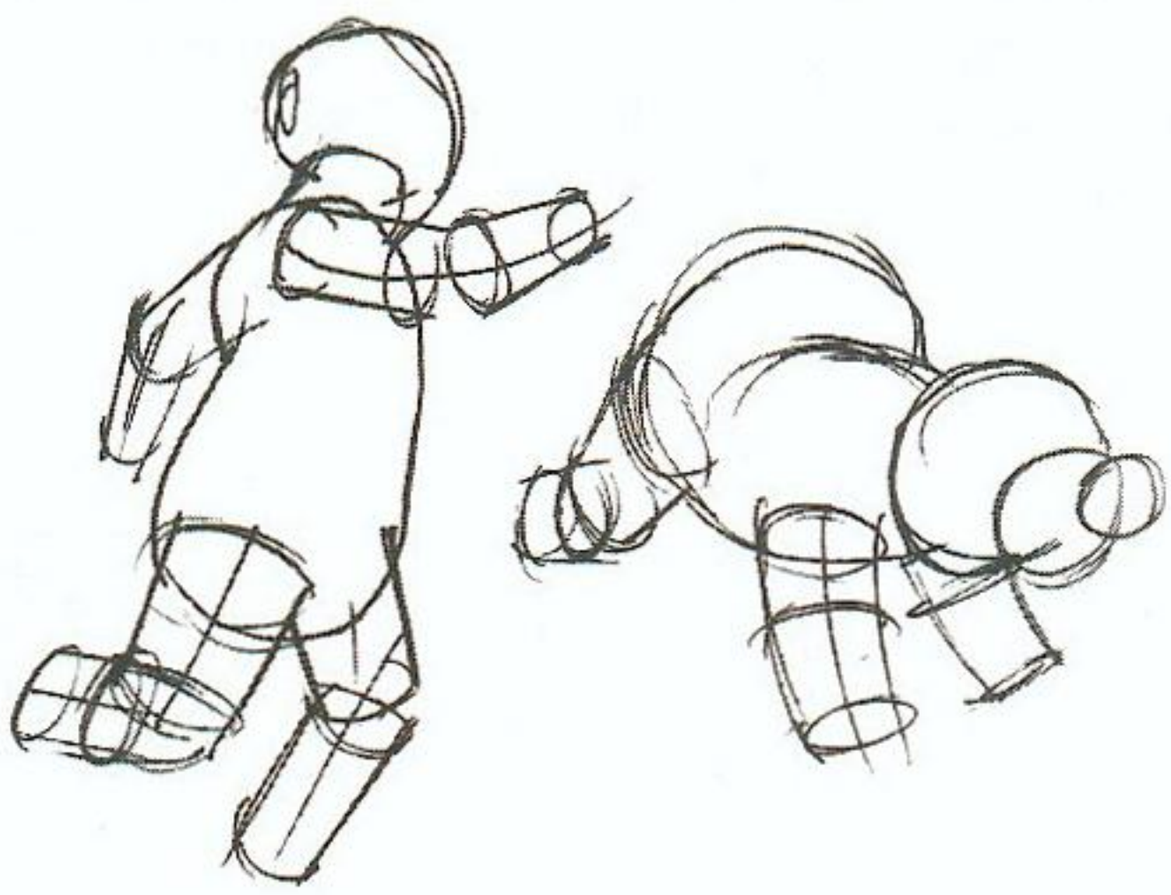
Illustration No. 4



Keep the ellipses at right angles to the central axis.

Do a series of drawings, adding cylindrical forms to the ones that we have created in the previous lessons (Illustration No. 5).

Illustration No. 5



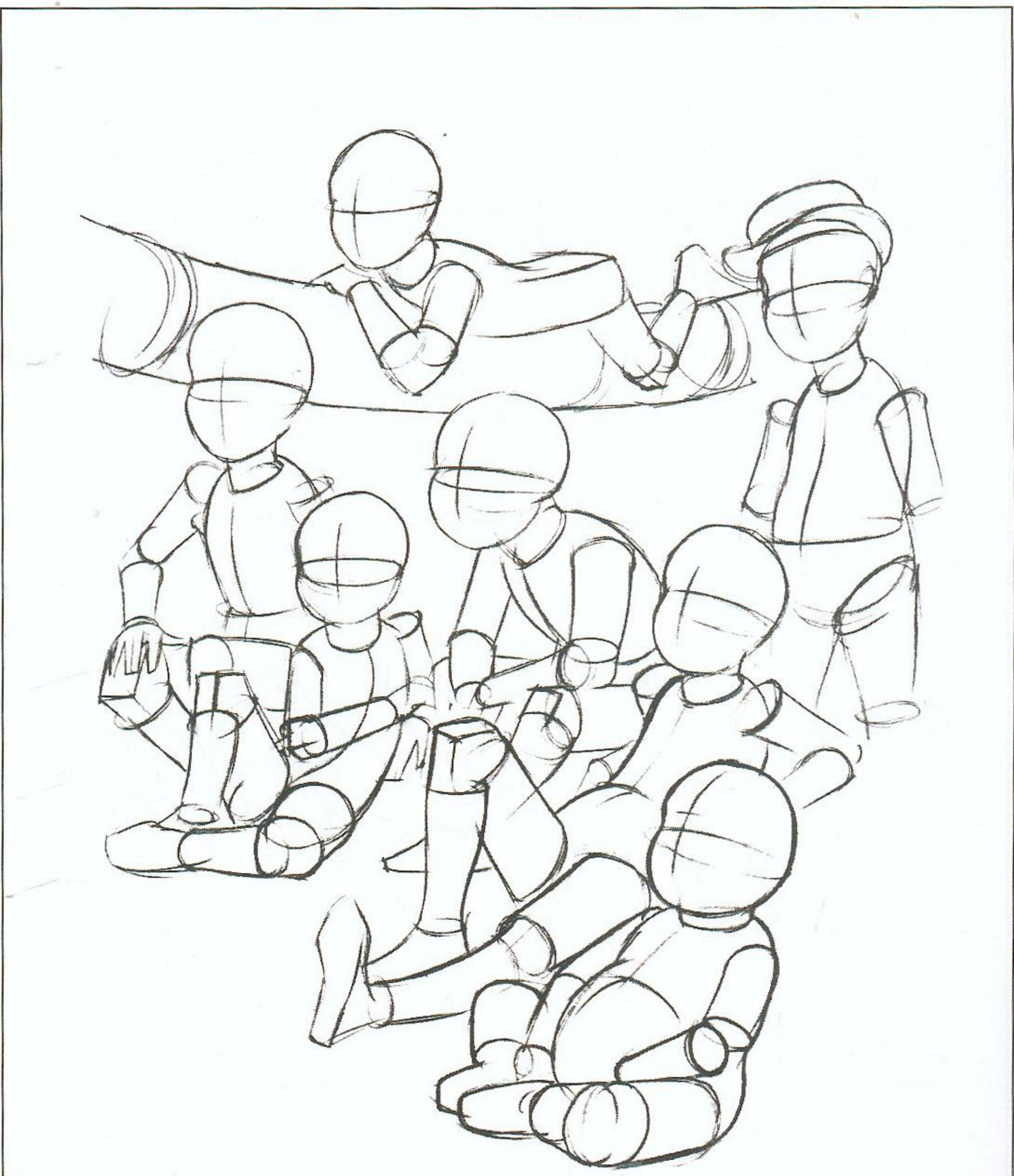
Have fun with the drawings. Even though learning to draw takes a lot of effort, it should be something you look forward to doing.

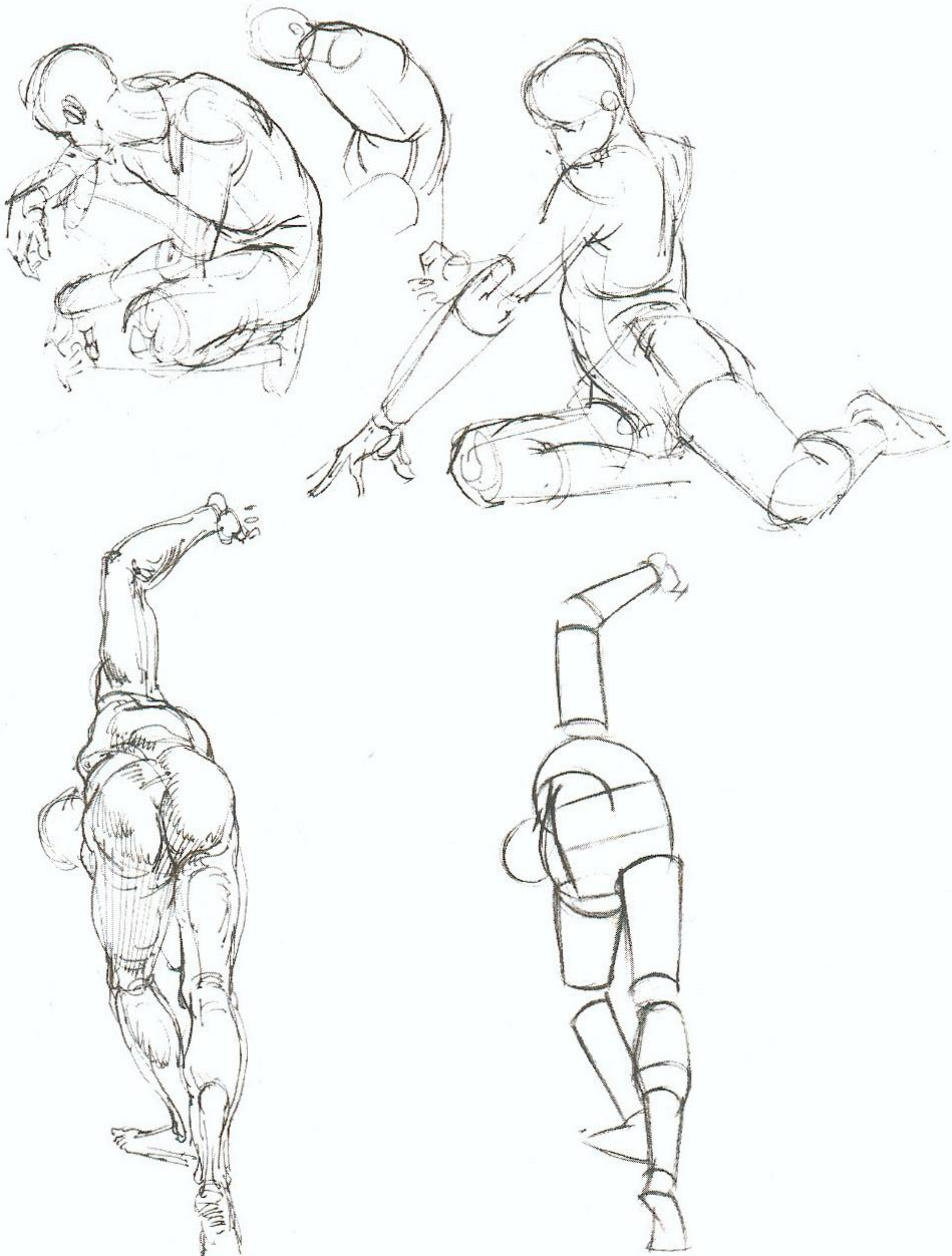
Remember that these are tools to help you see and not rules. At this point in your development you want to be very clear and obvious about what you are doing. As you develop, these tools will become transparent. By transparent, I mean that you will use them to influence the forms that you draw so that they become an underlying visual logic, but not necessarily as obvious as we need to make them in the learning process. No one is really in interested in seeing cylinders, ellipses, boxes, etc. What we want to see is what you have to say about your subject. Do not confuse the method with the message.

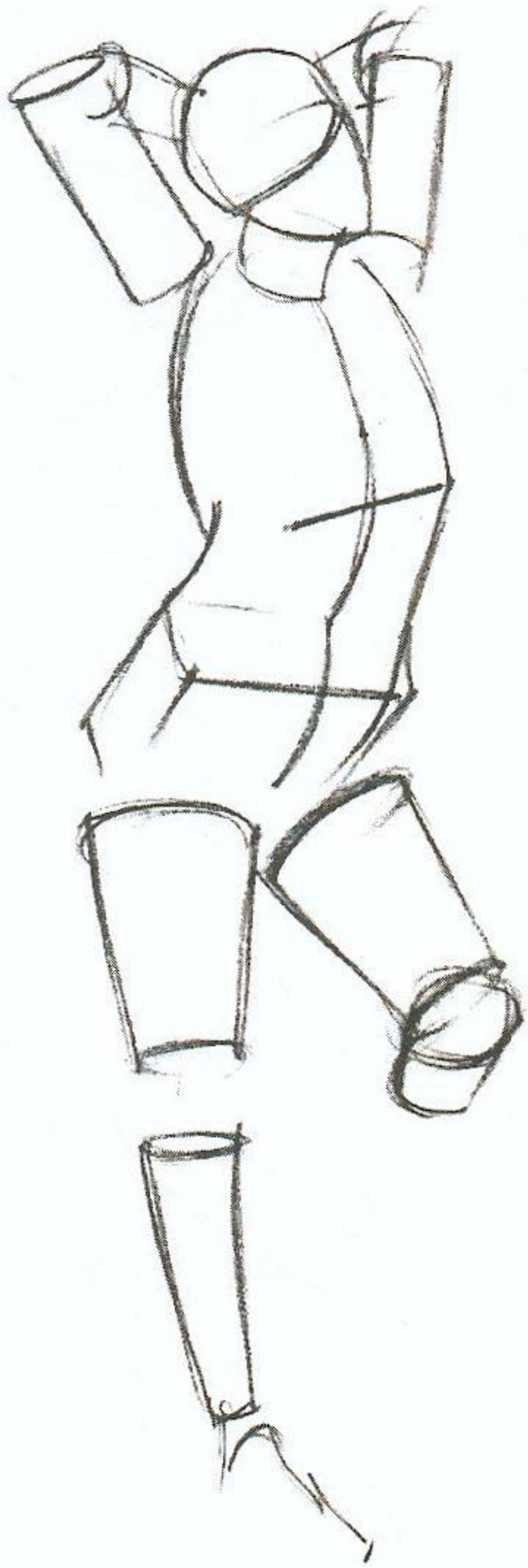
Illustration No. 4

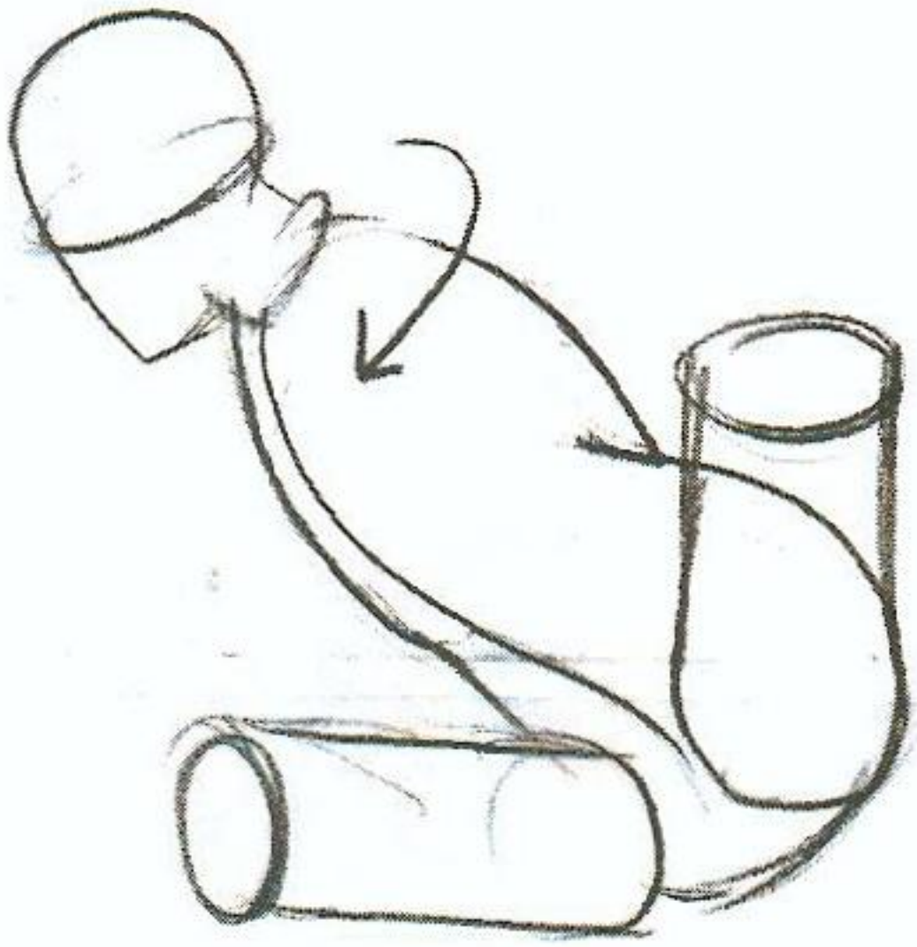
"Do not confuse the method with the message."

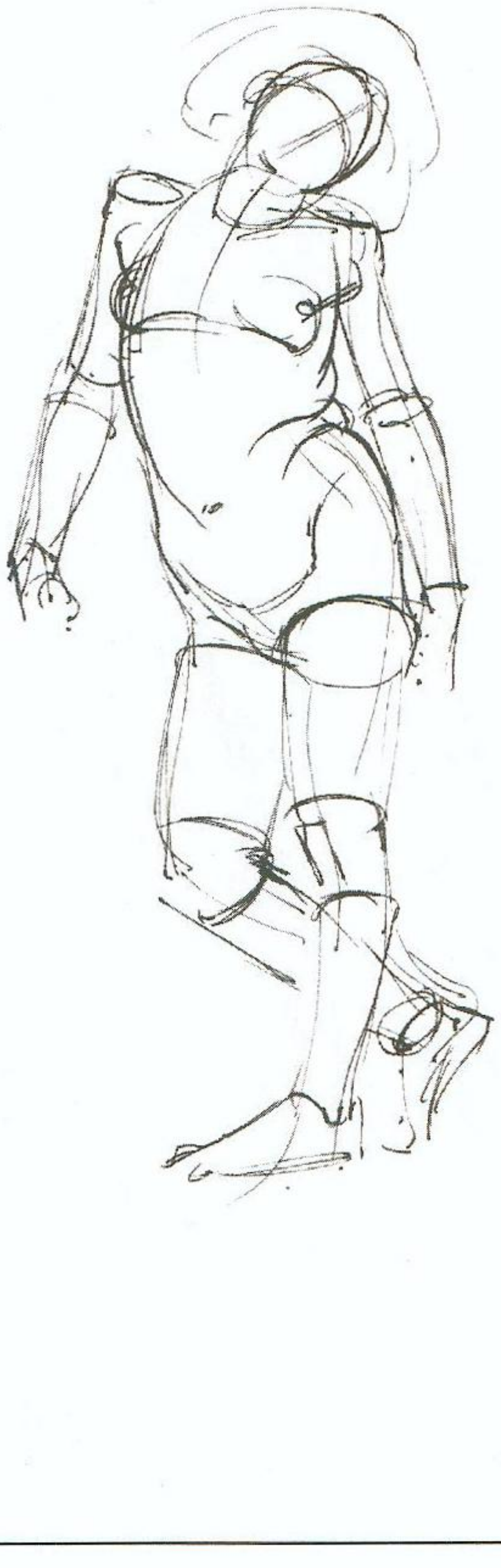
In some of the following drawings you can clearly see the use of the cylinder as a means of construction. In others, it was used as a means of understanding a complex form and influenced the way in which the form was used. Again, ***there are no rules, just tools!***

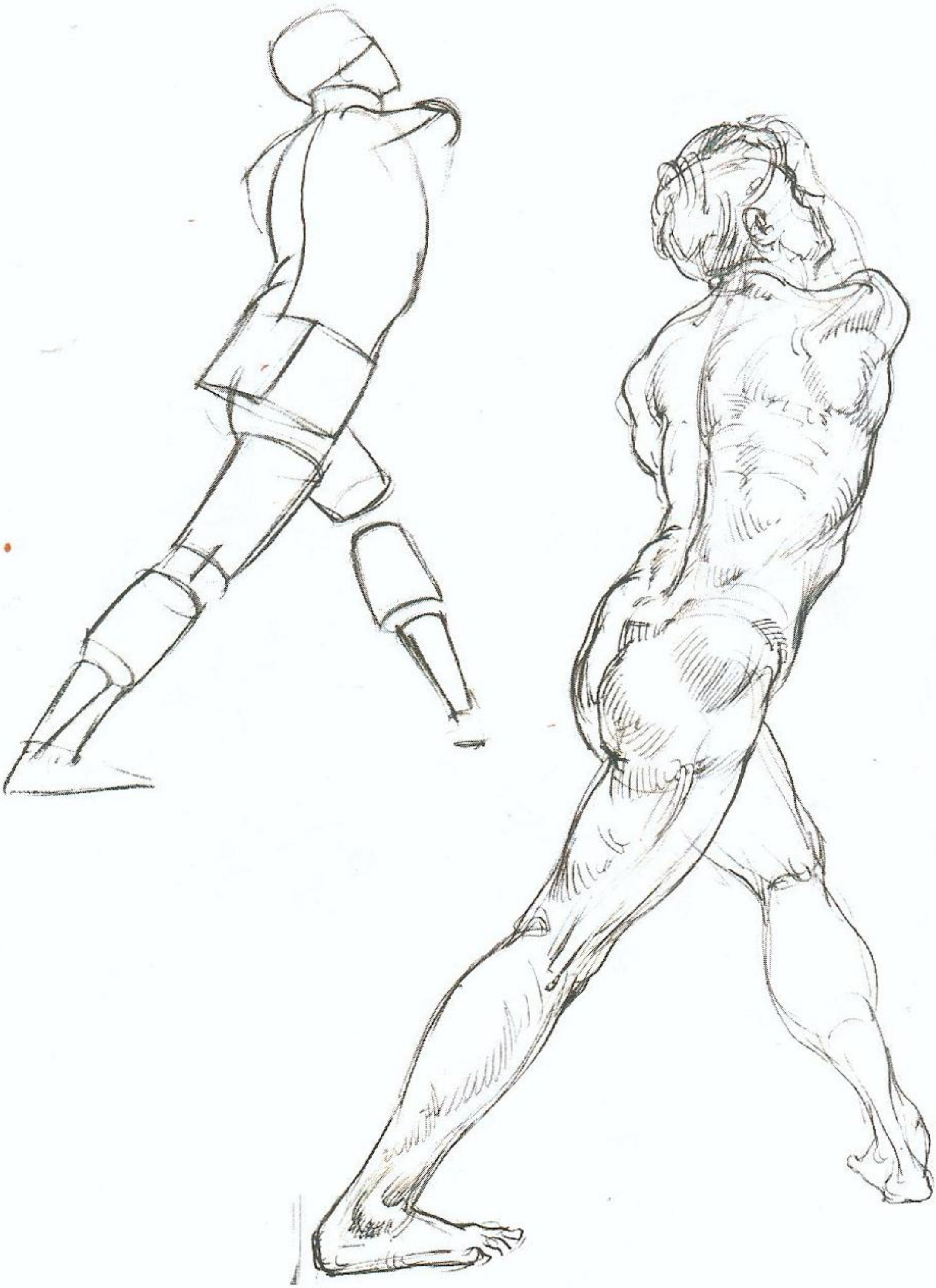




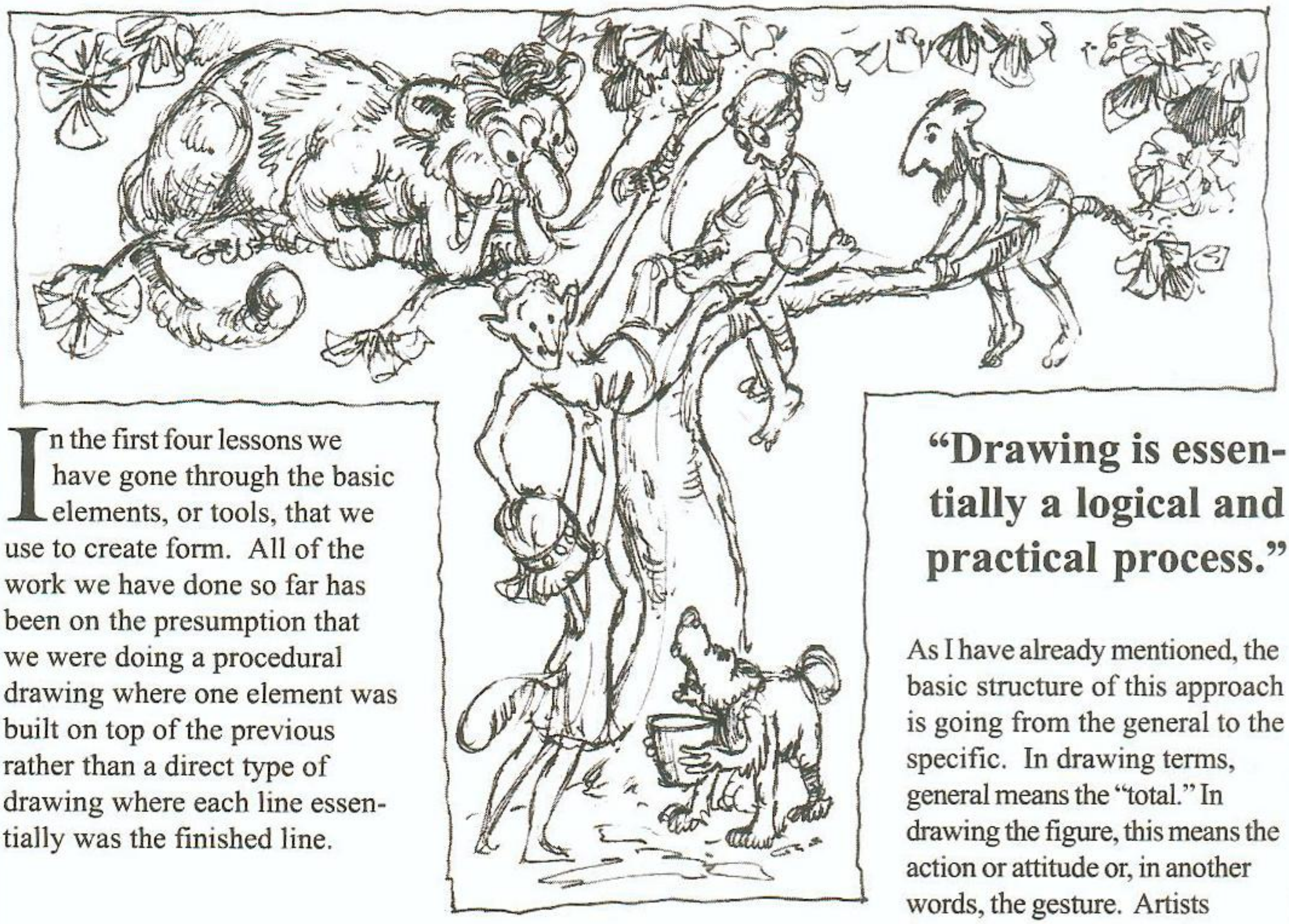








A Basic Procedure



In the first four lessons we have gone through the basic elements, or tools, that we use to create form. All of the work we have done so far has been on the presumption that we were doing a procedural drawing where one element was built on top of the previous rather than a direct type of drawing where each line essentially was the finished line.

"Drawing is essentially a logical and practical process."

In this lesson I will outline a basic procedure showing how all of the elements that we have discussed so far fit in. The essence of this approach is that we go from the general to the specific

"The essence of this approach is that we go from the general to the specific."

and that you essentially concentrate on one thing at a time. What we are talking about is a general plan, not a set of rules, but a plan that has to be responsive to the situation or needs of the drawing. As I mentioned in the introduction, there are three elements necessary to accomplish anything. First, you must have an approach or plan of attack. Second, you must have the knowledge to accomplish the task, and third, you must have the spirit to carry it through to completion.

As I have already mentioned, the basic structure of this approach is going from the general to the specific. In drawing terms, general means the "total." In drawing the figure, this means the action or attitude or, in another words, the gesture. Artists throughout history have done gesture drawing in many ways, this being determined by their personalties and the prevailing styles for any given time. Yet they all have essentially done so in a similarly logical manner. Drawing is essentially a logical and practical process.

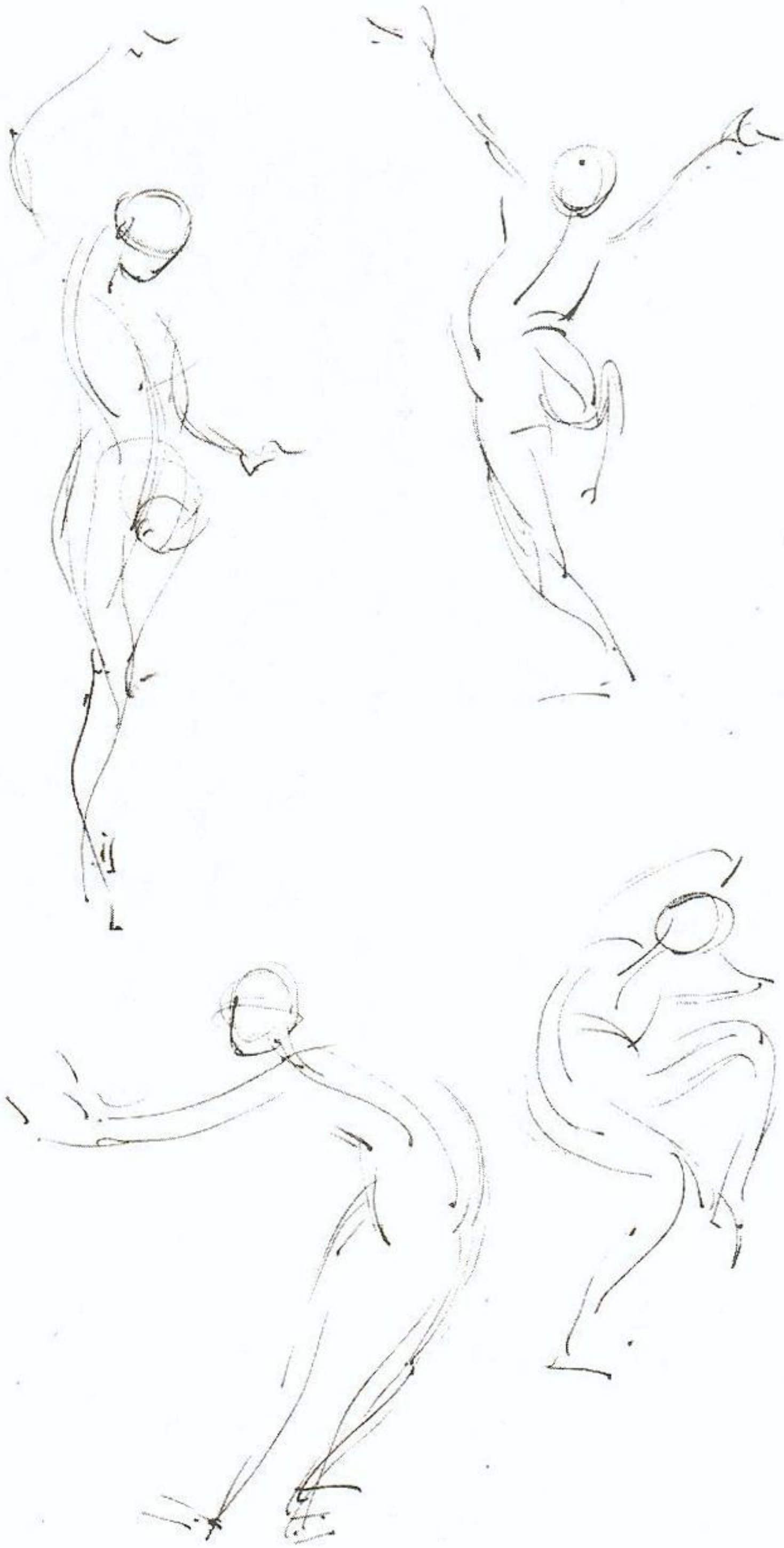
What is important at this point is that you concentrate on communicating the action in its totality and not get sidetracked into copying

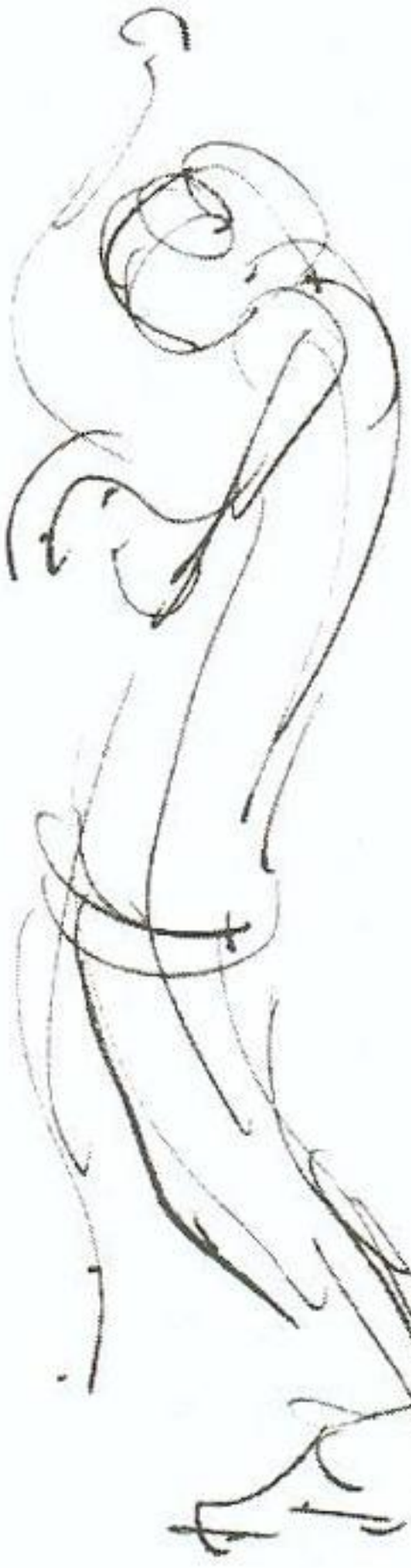
details or becoming preoccupied with specific contours unless they somehow assist in communicating the overall gesture.

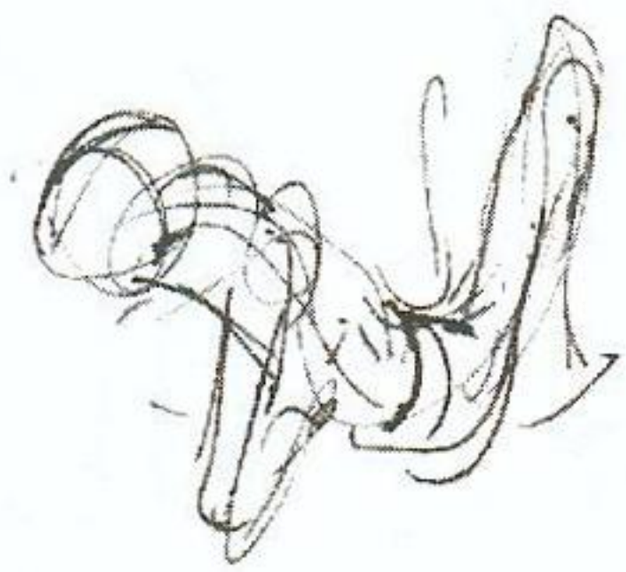
A fundamental truth that seems to get forgotten is that the lines that you draw are what the viewer looks at. This may seem obvious and simplistic but is true. What is important, at this point, is that you concentrate on communicating the action in its totality and not get sidetracked into copying details or becoming preoccupied with specific contours unless they somehow assist in communicating the overall gesture. This was the point of Lesson No. 1. Illustration No. 1 gives you more examples.

"At the beginning of the drawing the primary concern is the total action."

Illustration No. 1

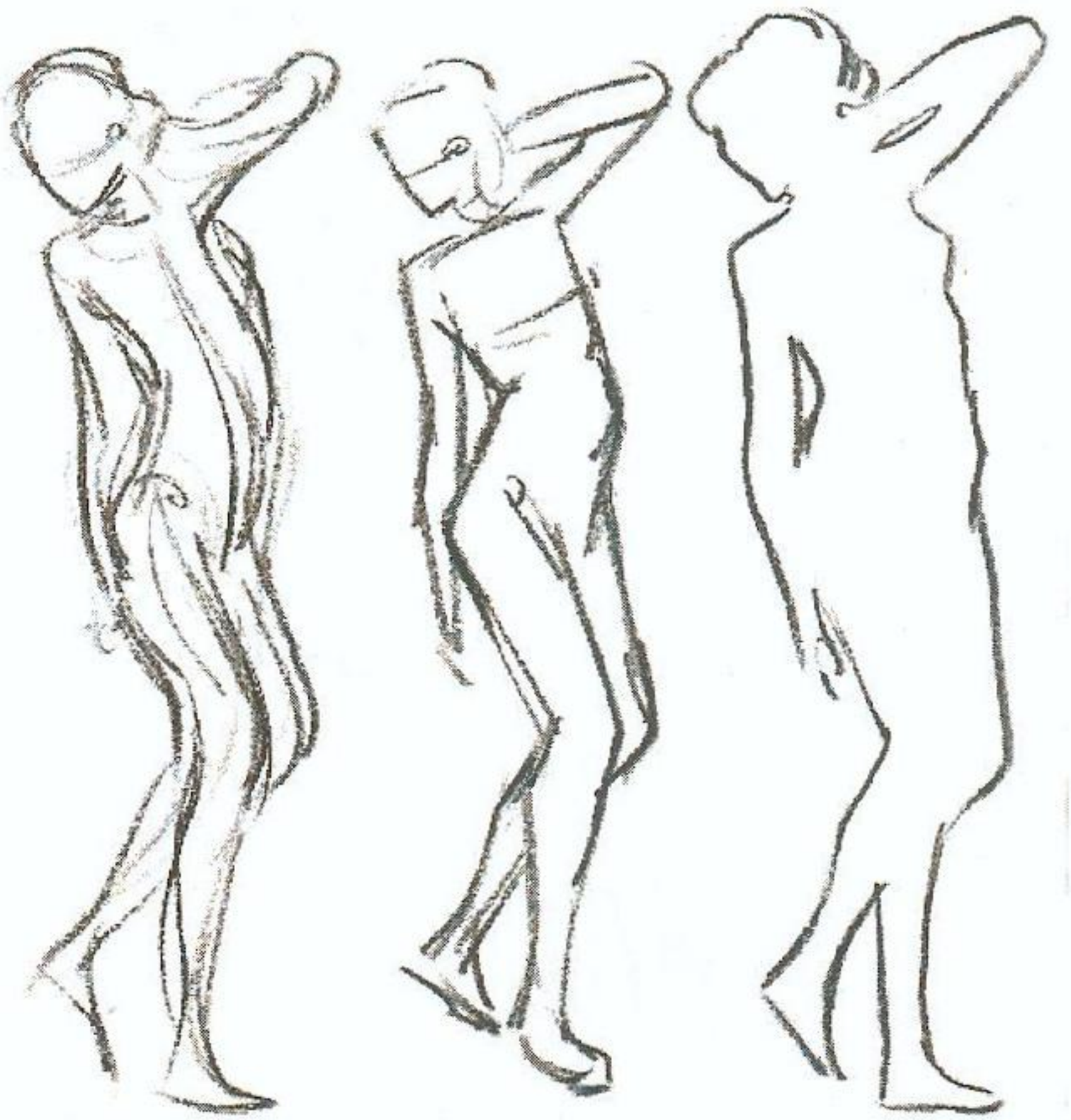






In Illustration No. 2 I have tried to show how the kinds of lines you use and the forms that you emphasize affect the feeling that your drawing communicates. Look at the differences between drawings A, B and C . Each drawing has a difference in the feeling it communicates. In "A," the lines, in general, go with the direction of the forms, one line flowing into the next. The general feeling is one of rhythm and grace . In drawing "B," we have a much sharper feeling and, in a way, "jerkier", if you can think of a drawing as having movement. The sharpness of the corners give it a bit more "bite," as we say, and perhaps this harshness is easier to understand. In "C," where the concentration is on the contours, the actual gesture becomes secondary to the flat shape created. "A" and "B," though different in feeling, still convey the sense of the movement (since the movement or gesture was the subject), while in "C," the subject was the contour and not the flow of the forms (the gesture, in this case, if captured, is a secondary consideration to the shape). This is not to say that shape is not important. In fact, it is very important. But at the beginning of the drawing, the primary concern is the total action.

Illustration No. 2



Examples "A" & "B" of Illustration No. 1 are exaggerations of two very common basic approaches to starting a drawing. "A" is exemplified by drawings of Daumier and "B" by the preliminary pen sketches of Peter Paul Rubens. These are the two extremes; you will find many artists who combine elements of both. Again, remember, there are no rules.

"Remember, there are no rules."

Illustration No. 3 gives more examples of the approach shown in example B.

Illustration No. 3

Illustration No. 4

Illustration No. 4 shows the second step in the process, clarifying the basic volumes, or masses, as we say. This can be carried to the extreme of cylinders and boxes, as we did in the first four lessons, or can be incorporated into the drawing in a less obvious way, as they are in Illustration No. 4. The study of boxes, cylinders, and spheres is the means and tools that help you understand in a simplified way what it is you are looking at. Again, there is every extreme in-between.

Illustration No. 5, as well as many examples in previous lessons, give you a little bit of the feeling for the variety that this step can take.

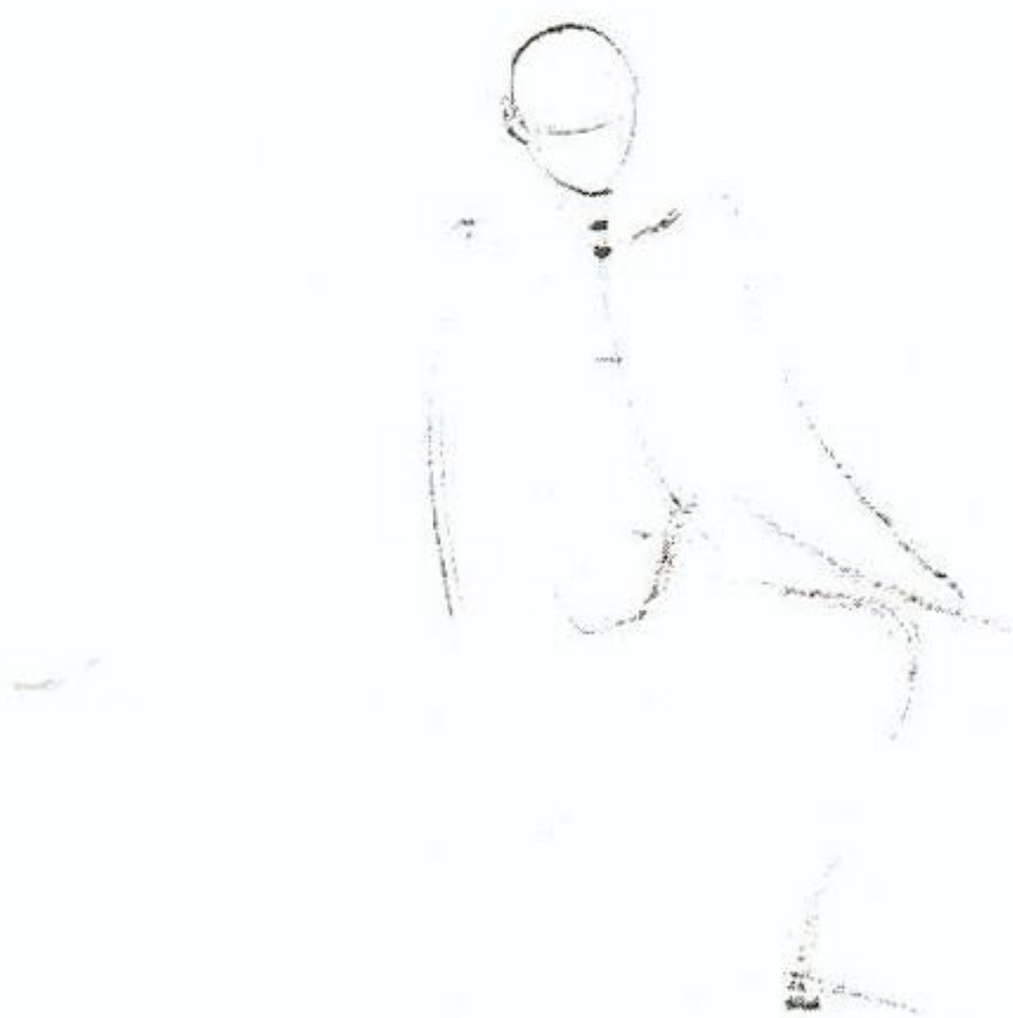
Illustration No. 5

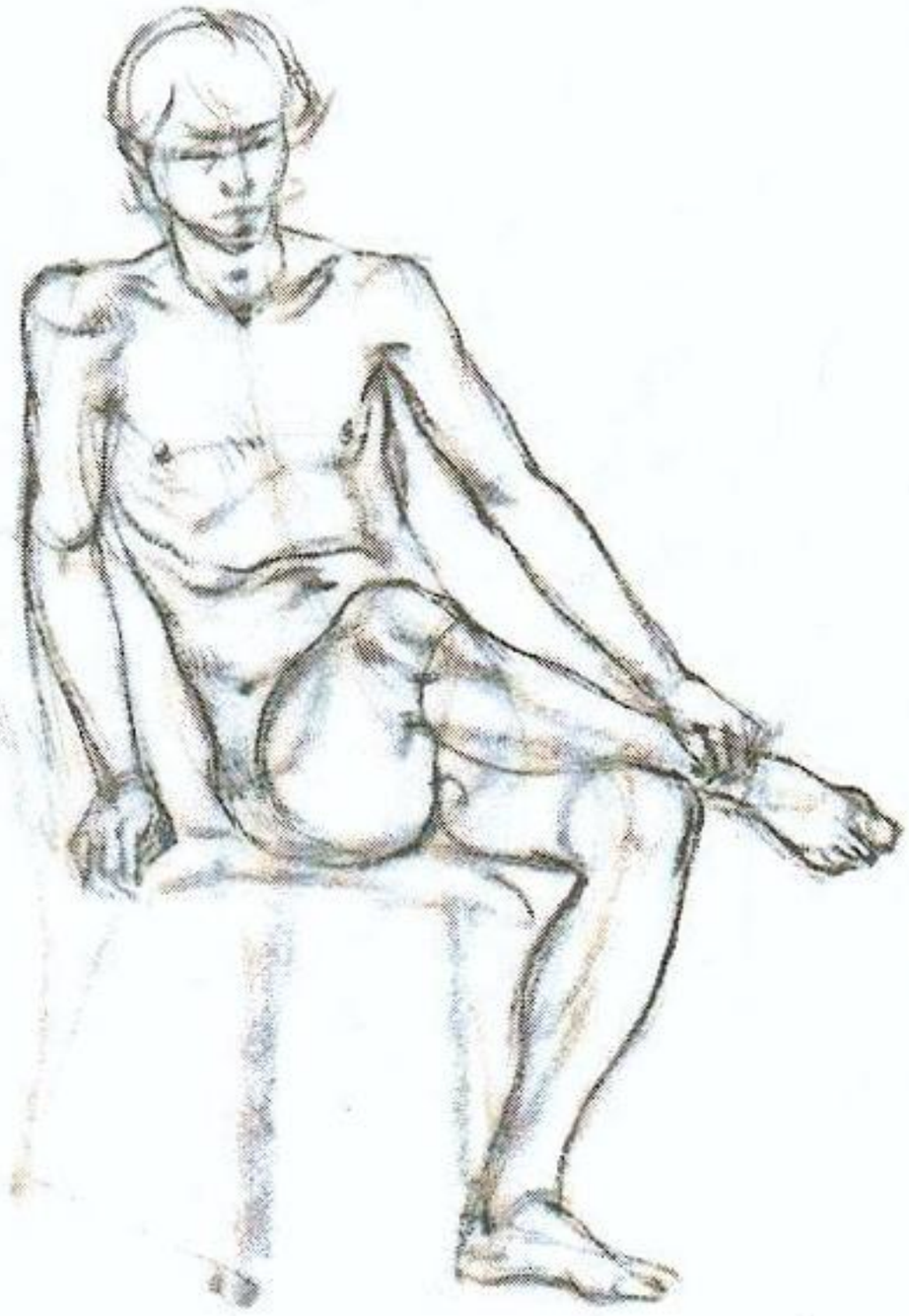
In general practice, the artist will often do a drawing in several layers. This layering is done in several ways. In the Fifteenth Century, it was common practice to do all of the preliminary drawing we have been discussing in a medium that could easily be erased, such as a soft charcoal, chalk, or graphite. Afterwards, going over the drawing with ink or wash. At this point, the preliminary drawing would be erased and further development of the drawing would be continued. Today we use light tables, tracing paper, and opaque projectors to do the same thing, still using the same materials and methods of the past.

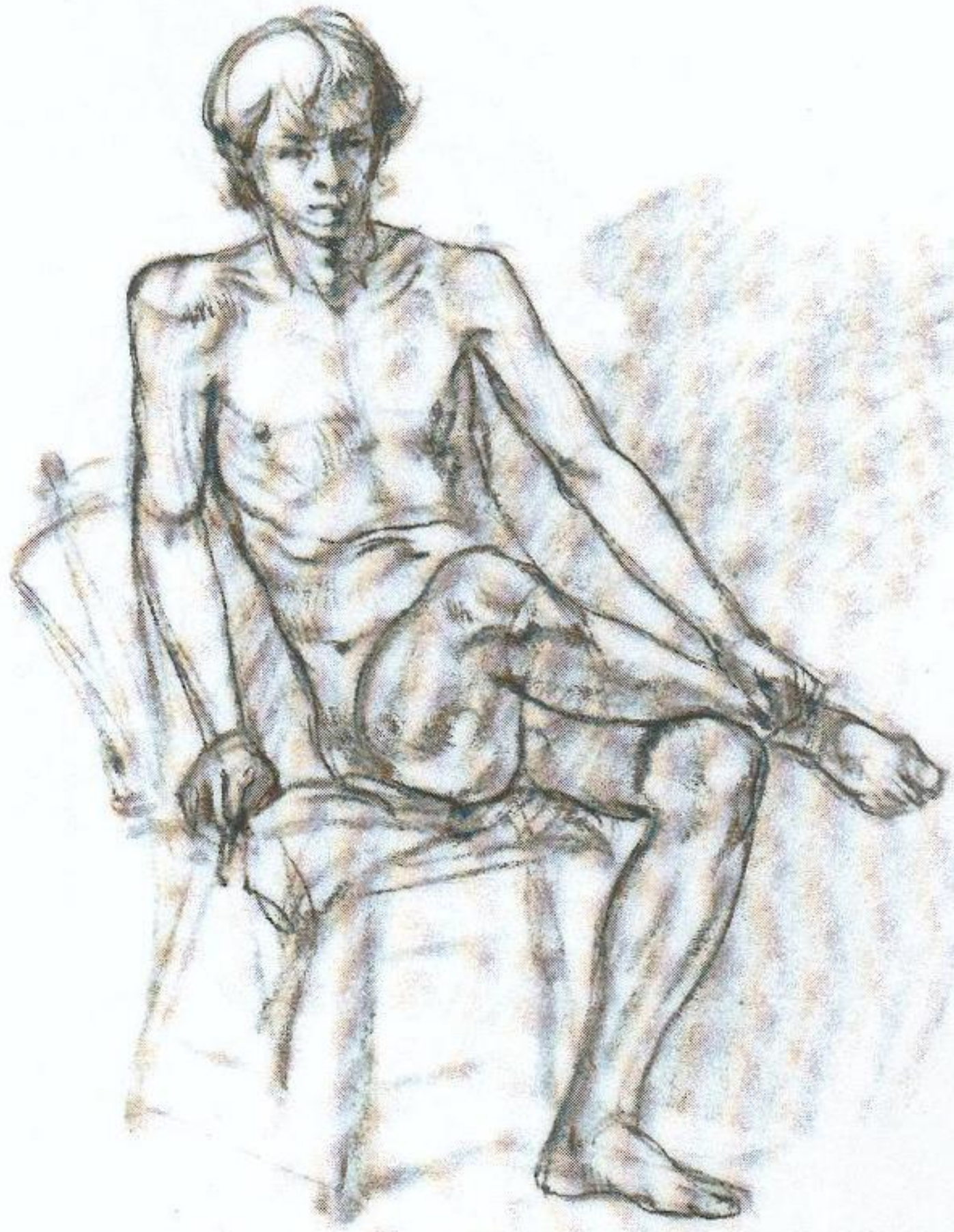
Remember, we are discussing a procedural approach to drawing, not direct drawing. Although all drawing is, in a way, direct, the point is that the sequence allows you to concentrate on one element at a time and go from the general to the specific. This is a general method, or approach, to help you organize your efforts. It is not a rule, but a tool.

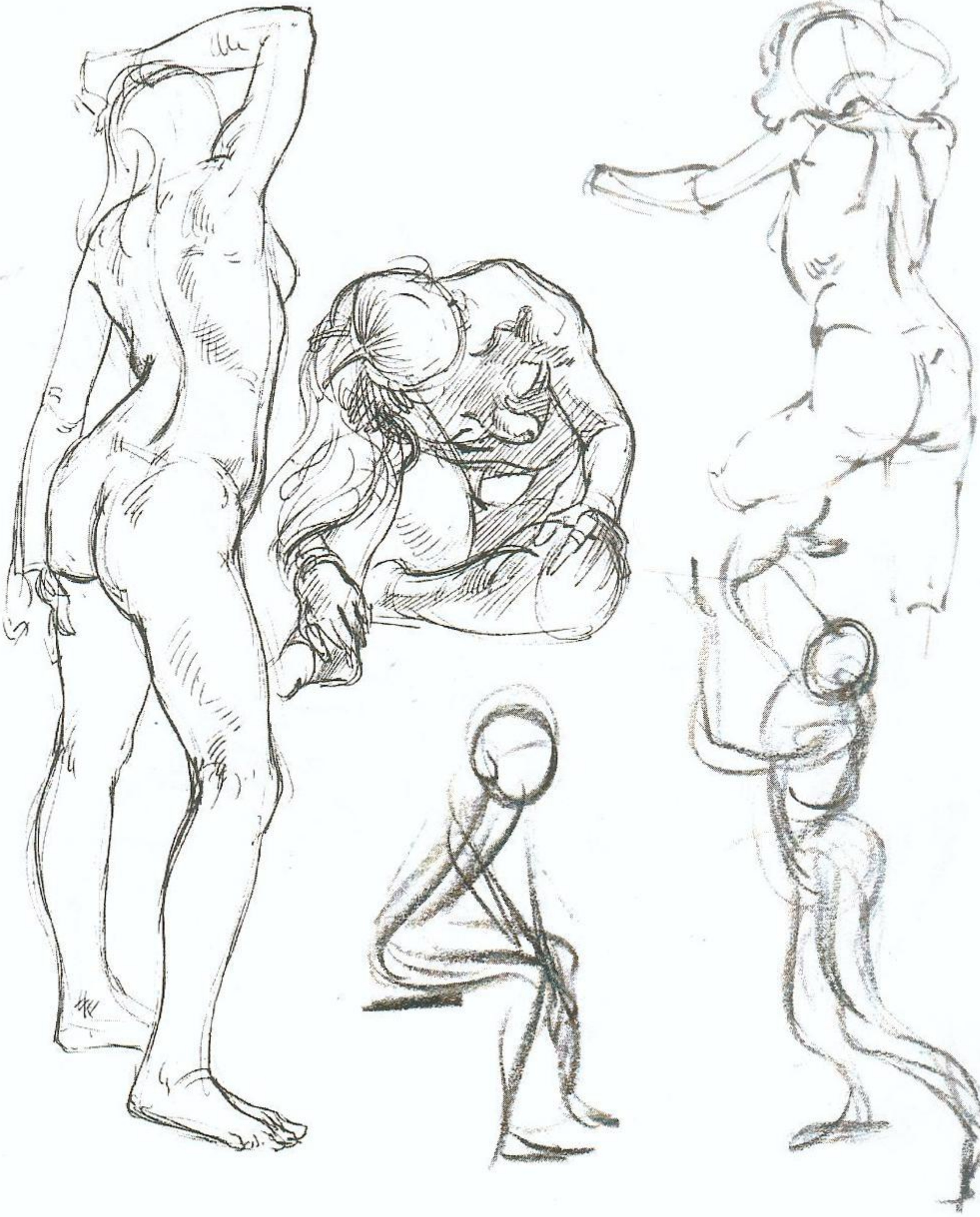
Illustration No.6 on this page and the following ones of this chapter illustrate this procedural approach.

Illustration No. 6

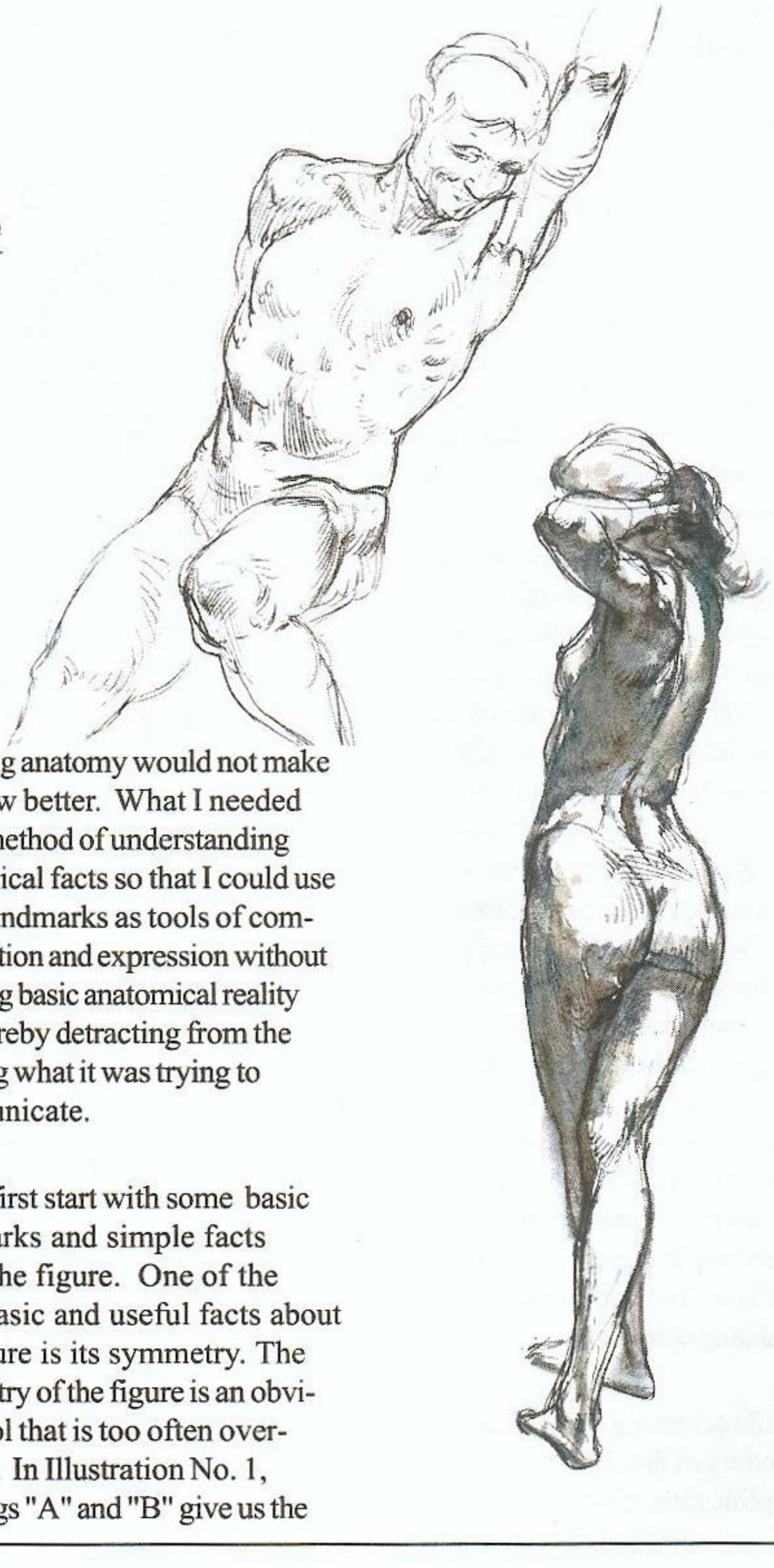








Using Anatomy: Part one



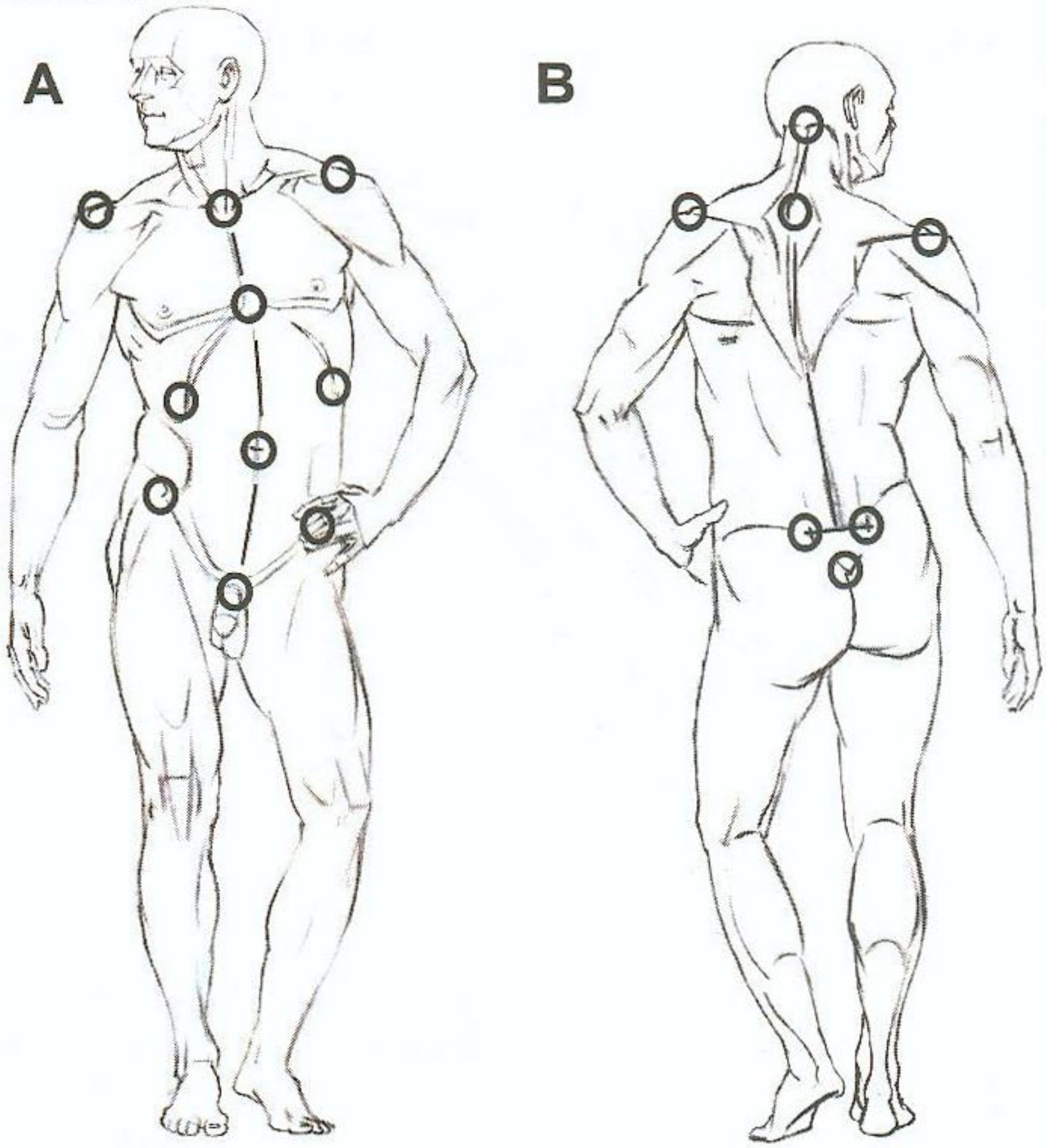
It is a truism that you cannot draw something unless you know what it looks like. It is also true that just because you know something very well, it does not mean that you can draw it. I have taught many medical personnel, including doctors, nurses, and various specialists with much more understanding of anatomy than myself. In fact, it took a while for me to realize that just knowing anatomy would not make me draw better. What I needed was a method of understanding anatomical facts so that I could use these landmarks as tools of communication and expression without violating basic anatomical reality and thereby detracting from the drawing what it was trying to communicate.

"You cannot draw something unless you know what it looks like."

Let us first start with some basic landmarks and simple facts about the figure. One of the most basic and useful facts about the figure is its symmetry. The symmetry of the figure is an obvious tool that is too often overlooked. In Illustration No. 1, drawings "A" and "B" give us the

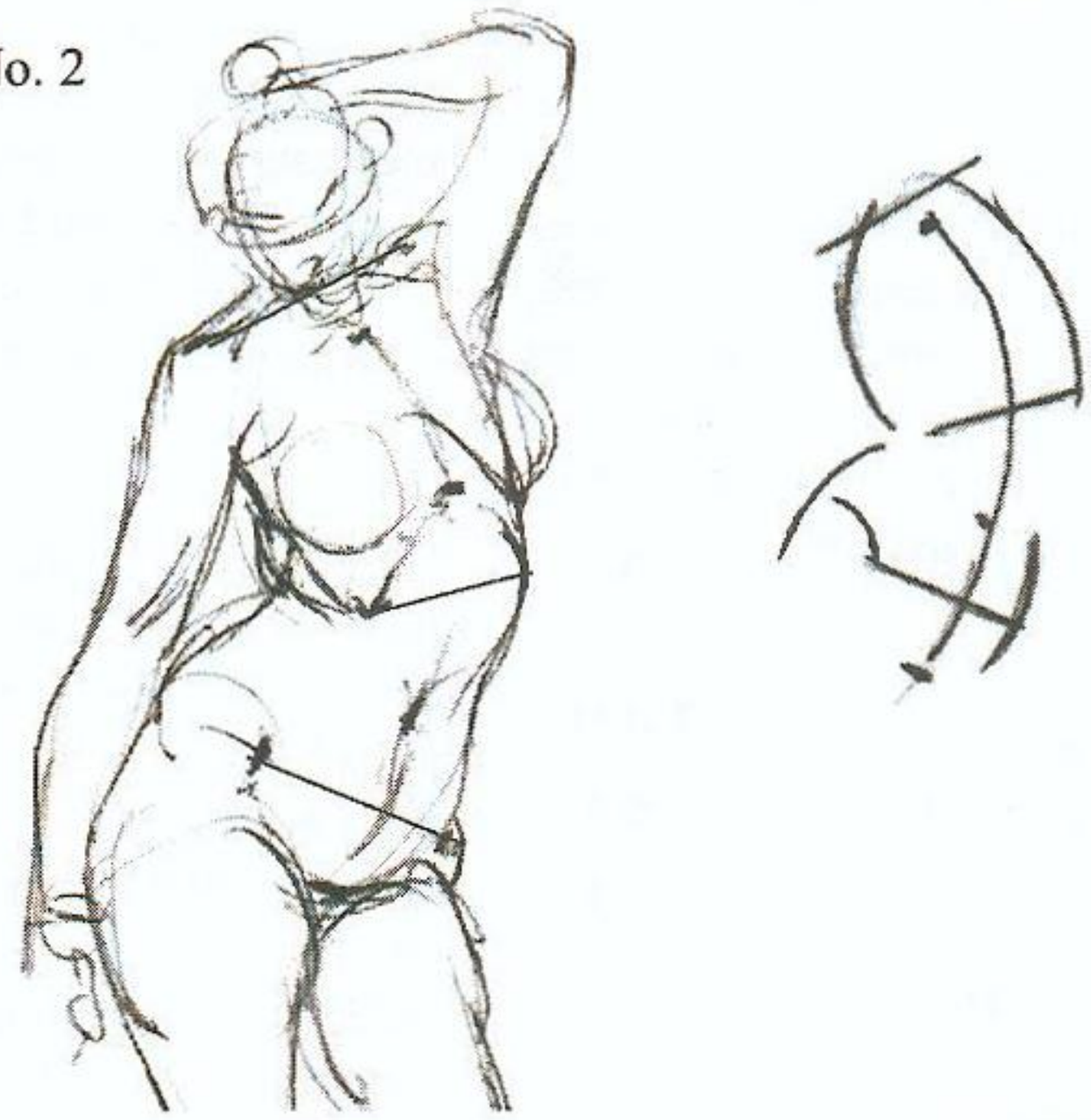
basic landmarks that we need to understand and use. From the front we have the line created by the pit of the neck, sternum, naval, and pubic arch, giving us a center line. In the back, we have the spine itself as a center line. The ends of the shoulders are basic landmarks from both front and back. Moving down the front, we have the corners of the rib cage at the bottom of the thoracic arch, and the corners of the pelvis at the end of the iliac crest. Going down the back, we have the lines of the scapulas, and the ends of the iliac crest where it meets the sacrum.

Illustration No. 1



Now let us see how we use these basic landmarks. Thinking of the center of the form is the key to using symmetry. In most cases, (with the exception of the shoulders which have considerable independent movement but which generally conform to the basic concept), the landmarks are at right angles to the central axis of the form. When the central axis of the form changes, the landmarks move with it and, generally, exaggerate the change. Study Illustration No.2 of the torso and notice how the landmarks move with the change of the form. Notice the compression and stretching that takes place when the fixed landmarks move with the changing central axis.

Illustration No. 2



While achieving a clear understanding of the action by amplification of the shift in the

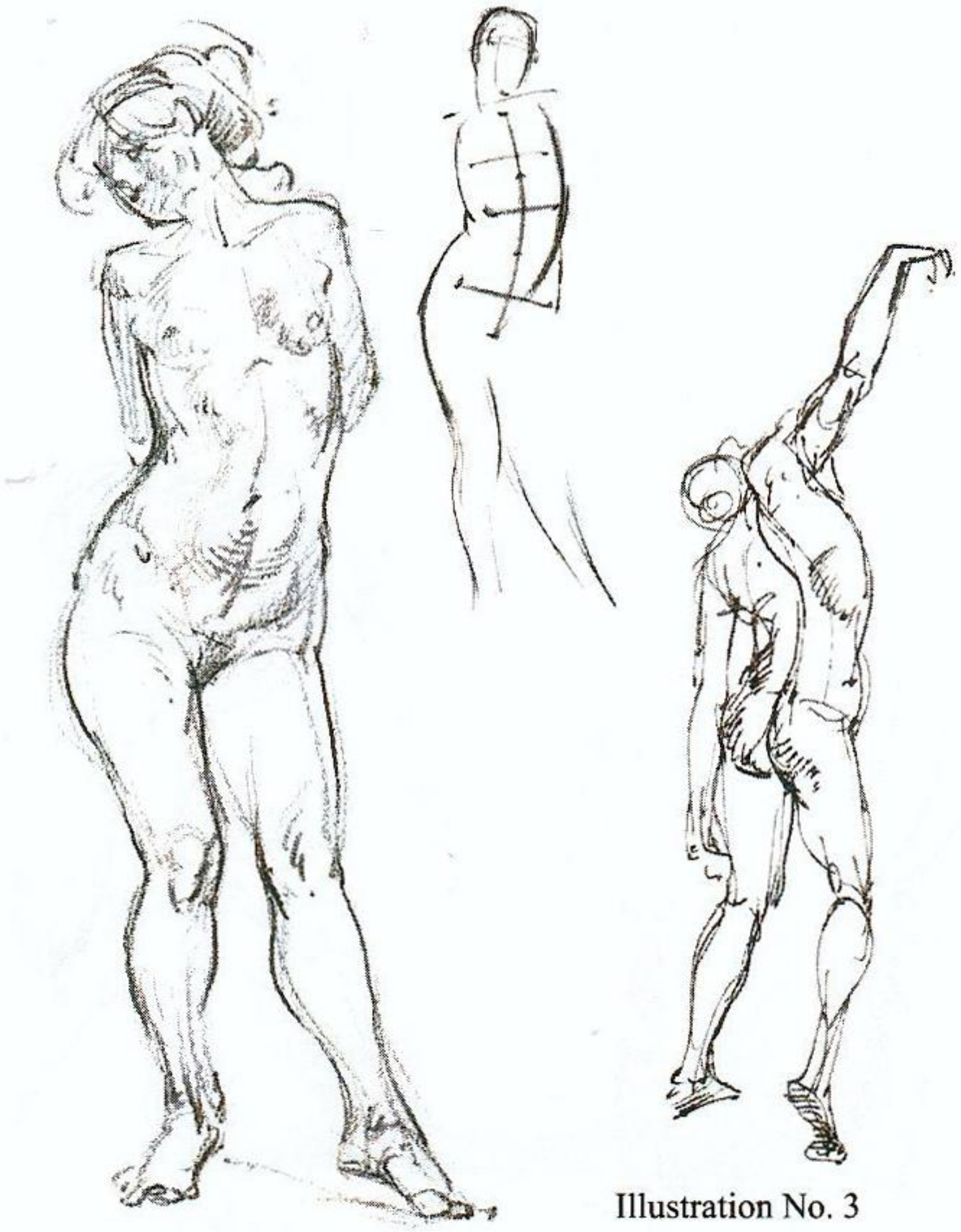
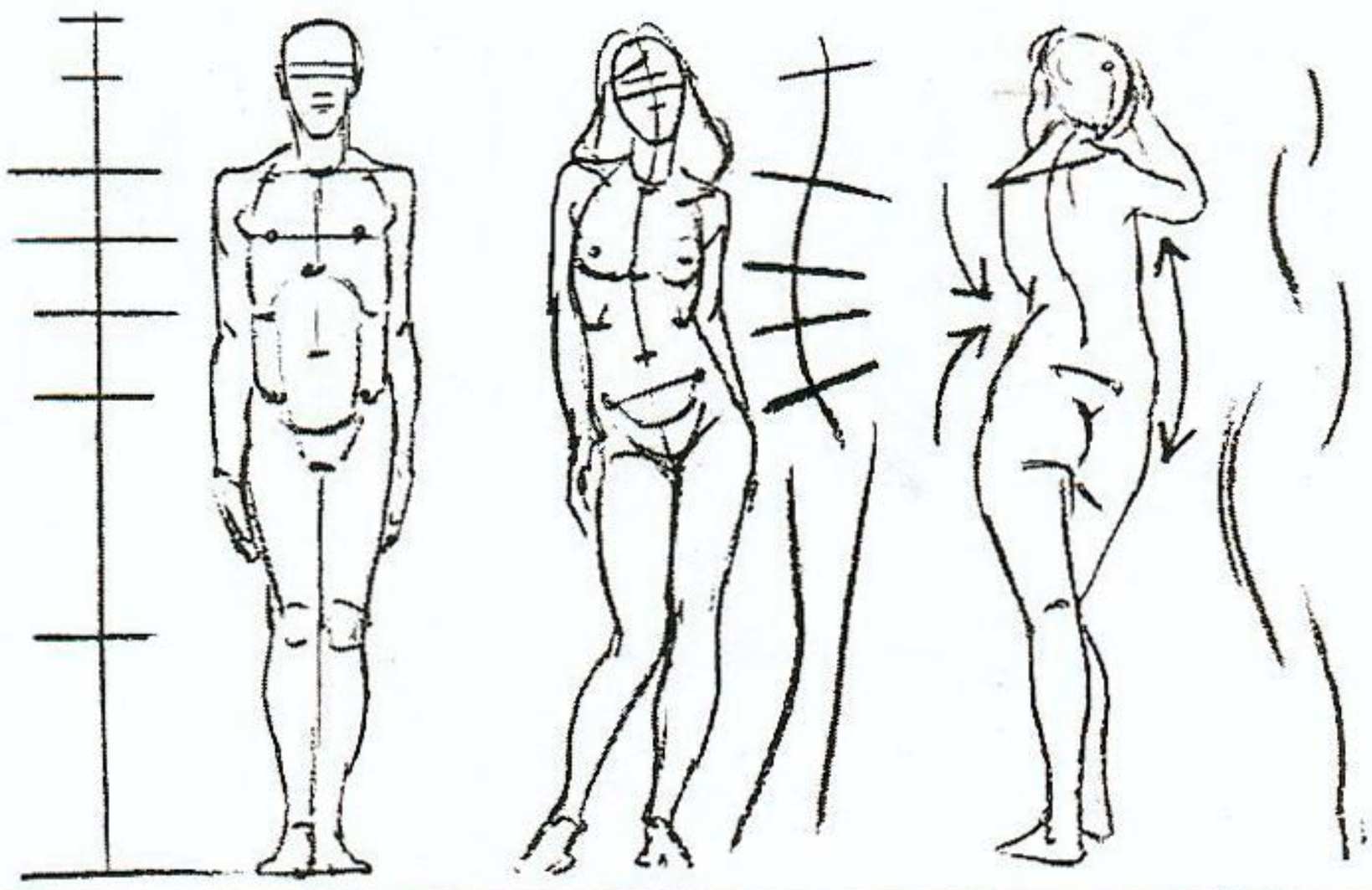


Illustration No. 3

central axis, we bring into play fundamental dynamics of reality as well as basic design elements. By simply shifting the weight to one leg we automatically create a curve in the torso, as we generally shift the rest of the torso to compensate. This shifting doesn't stop there, but extends to the neck and head, going up, which tends to move in the opposite direction again. In this simple shifting, you have the basic elements of a classical rhythmic arrangement of forms combined with the twist that was the hallmark of renaissance aesthetics. Look at Illustration No. 3 and take the pose yourself. Try standing with your weight equally balanced and then slowly shift your weight from one side to the other and see what happens. If you try to maintain a basic vertical position rather than leaning to one side or the other, you will look like Illustration No. 3. Notice how one side of the body is stretching and the other side is compressing.



The accordion in Illustration No. 4 is a diagram of this action. The basic design element involved here is the fundamental concept of opposites, the most basic of design principles. The use of opposites is a tool that not only creates visual interest, but each helps to clarify the other. The Italians called this pose "Contra Posto."

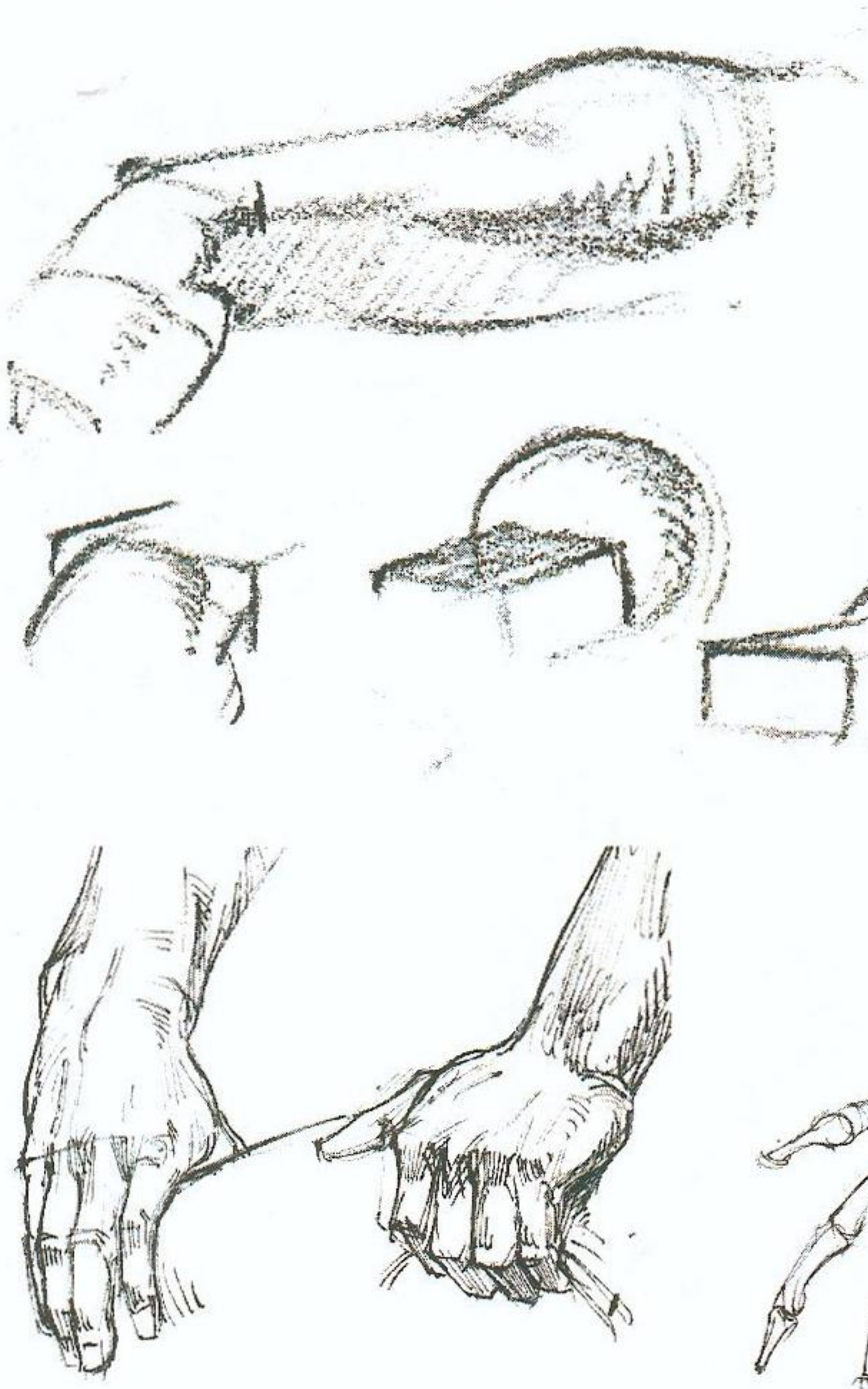
Illustration No. 4

Illustration No. 5

The limbs have their own land-marks that we look for and use as tools to help us understand and describe an action. As in the torso, symmetry plays a key role and, of course, is defined by the central axis of the form. The most useful clarifying elements are the ends of the bones at the various joints.

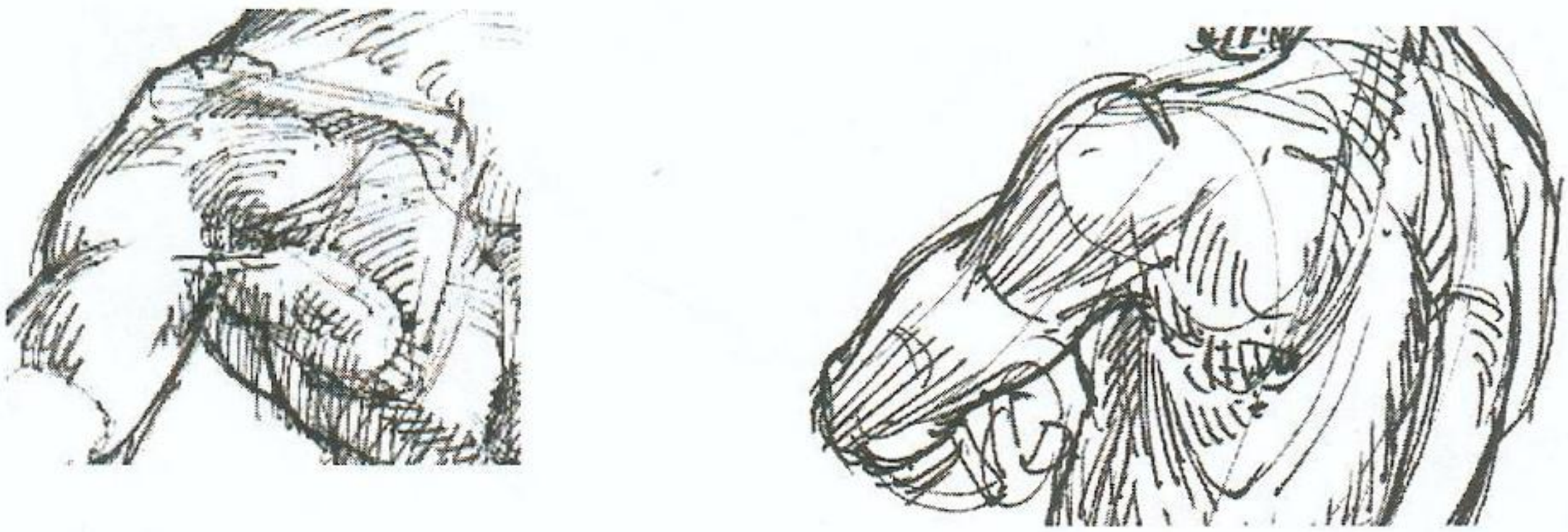
First, let us look at the elbow. The uniqueness of the joint of the elbow creates a very practical means of showing the direction of the form. Illustration No. 5 shows you how this joint is formed. The end of the ulna along with the epicondyle of the humerus create three clear points that you can use in your drawing. When the arm is straight, these points create a straight line. When you bend your arm, the tip of the ulna drops. This triangle then becomes the end of the cylinder of the forearm. The axis created by the line between the condyles defines the orientation of the cylinder in space.

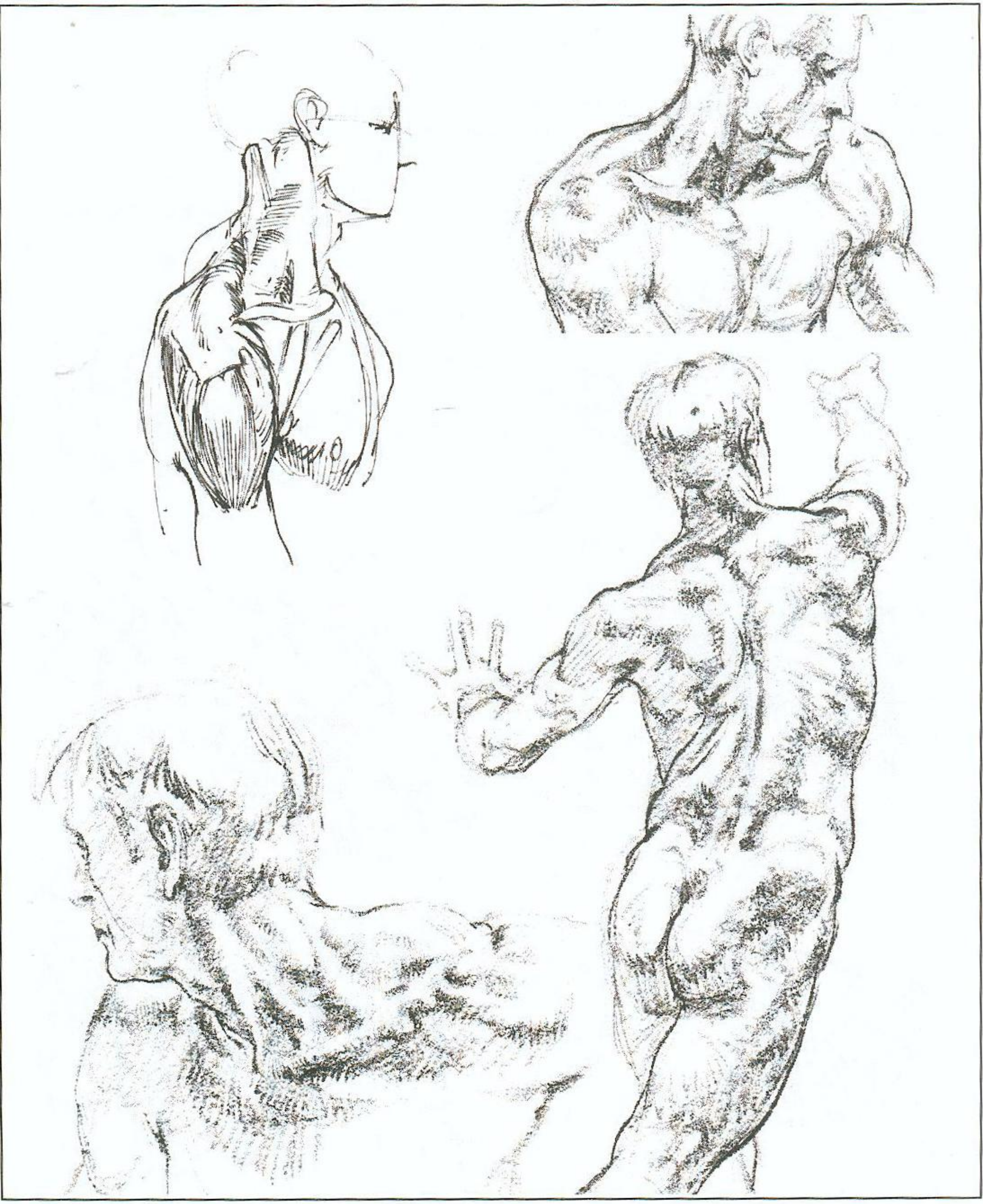
Since the radius has the ability to twist independently of the ulna, the wrist is often best described as a squared shape due to the flatness of the radius on top. Again, this is an observation that becomes an excellent tool.



The shoulder is a little different in that we do not really see the humerus clearly. Here we must use the way in which the deltoid attaches in a semicircle to the scapula and clavicle. The acromion process at the end of the spine of the scapula becomes the point that we use in drawing the line across the shoulders. The line created by the spine of the scapula is also very useful as is the lower corner. Study Illustration No. 6.

Illustration No. 6





The knee is used very much in the same way as the elbow in that we concentrate primarily on the epi-condyle of the femur and condyles of the tibia. It becomes quiet useful to see this joint rather squarishly to help show the direction of the leg. The patella functions in much the same way as the end of the ulna does in the elbow in helping to give direction to the leg. Study Illustration No. 7.

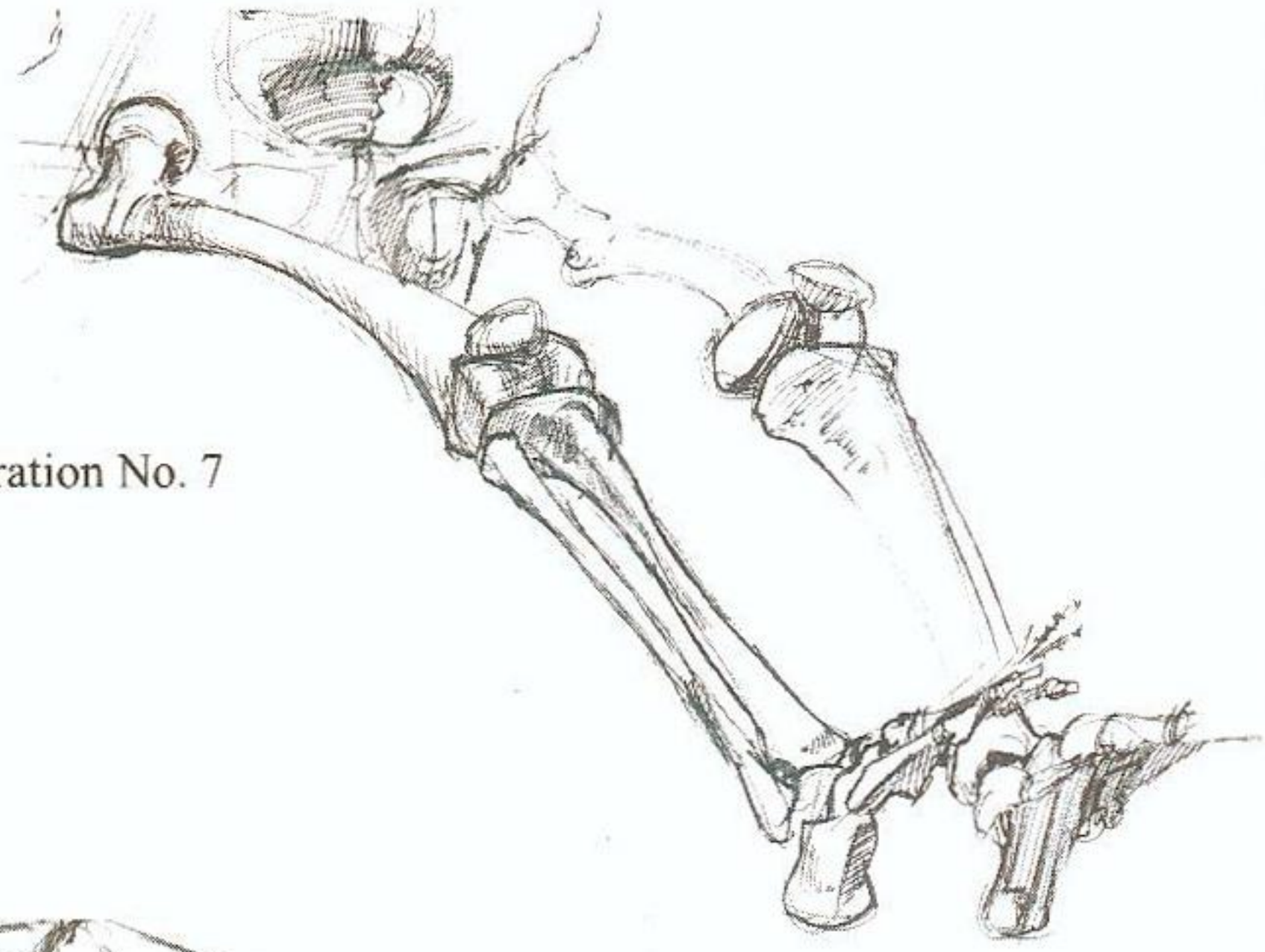
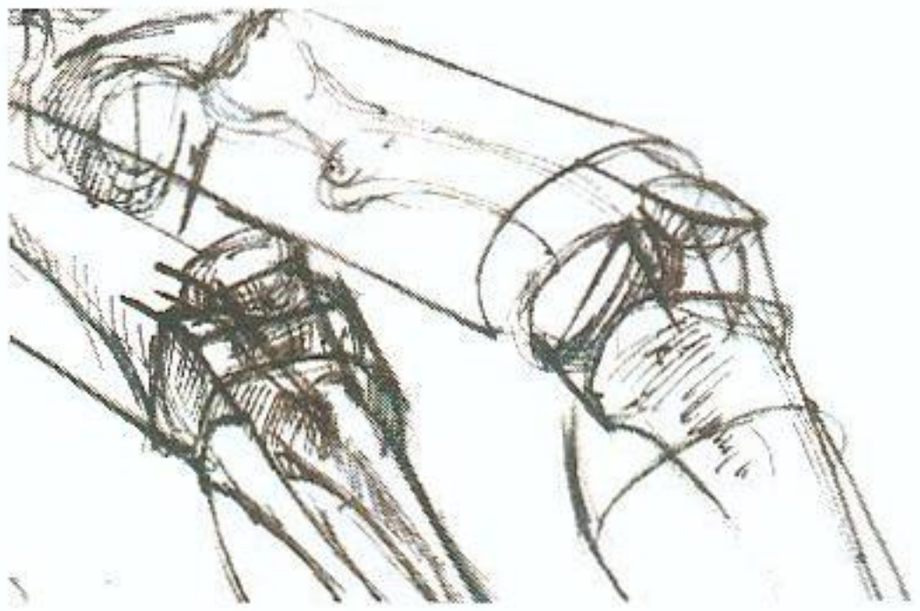
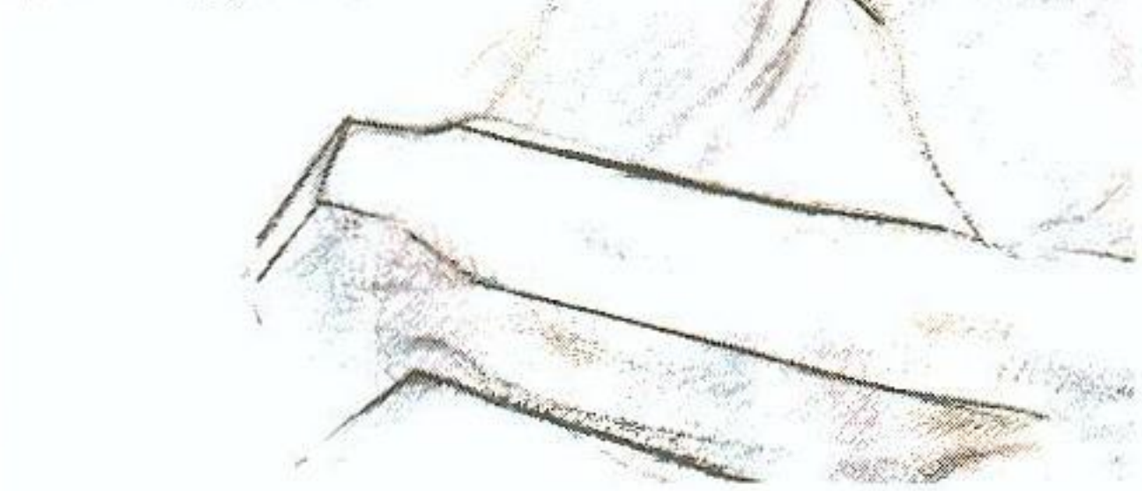
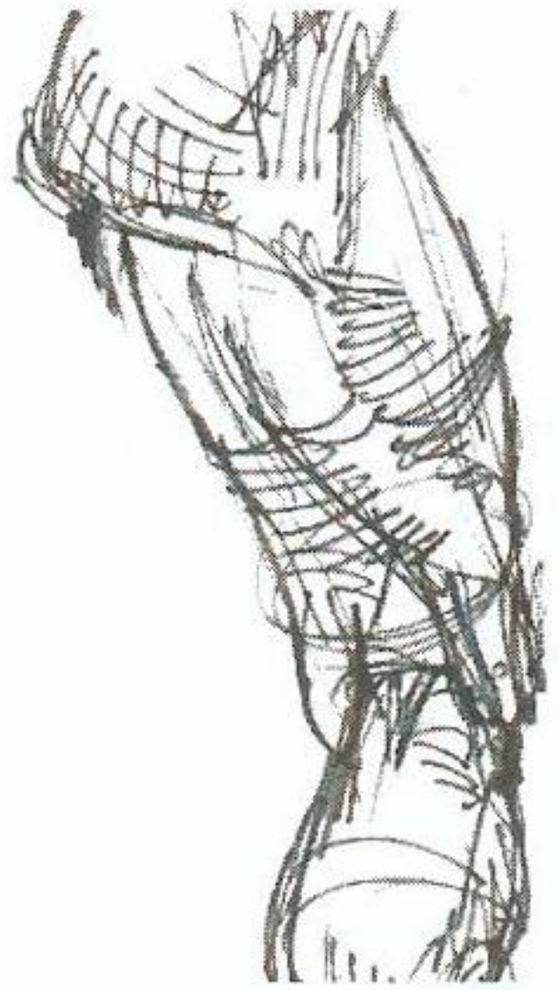
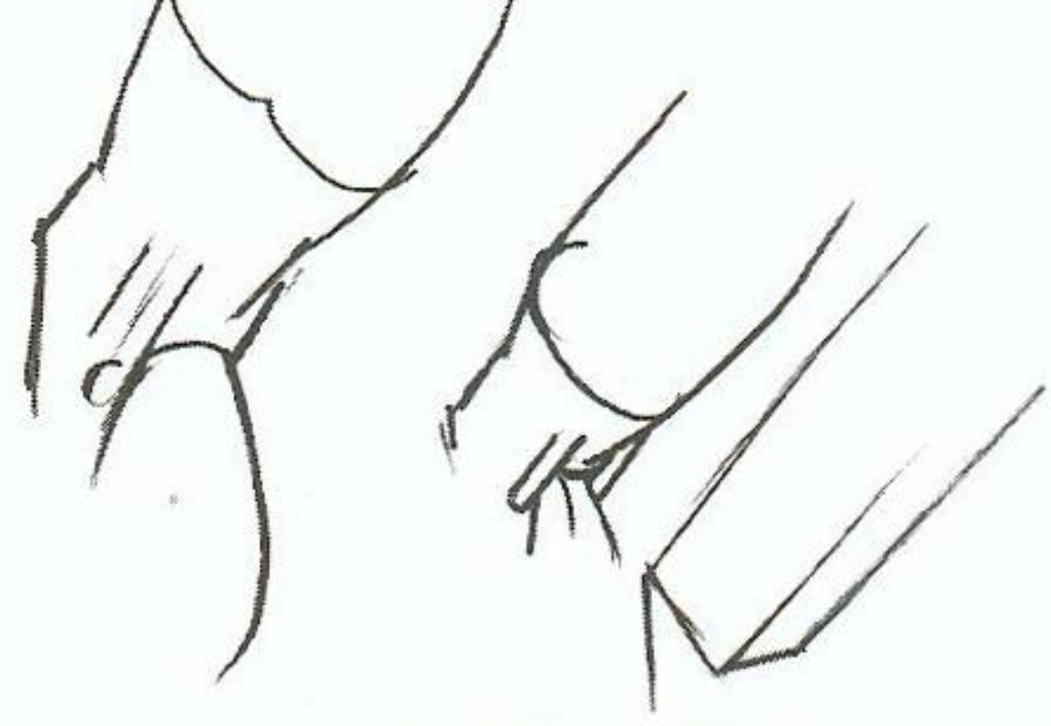


Illustration No. 7





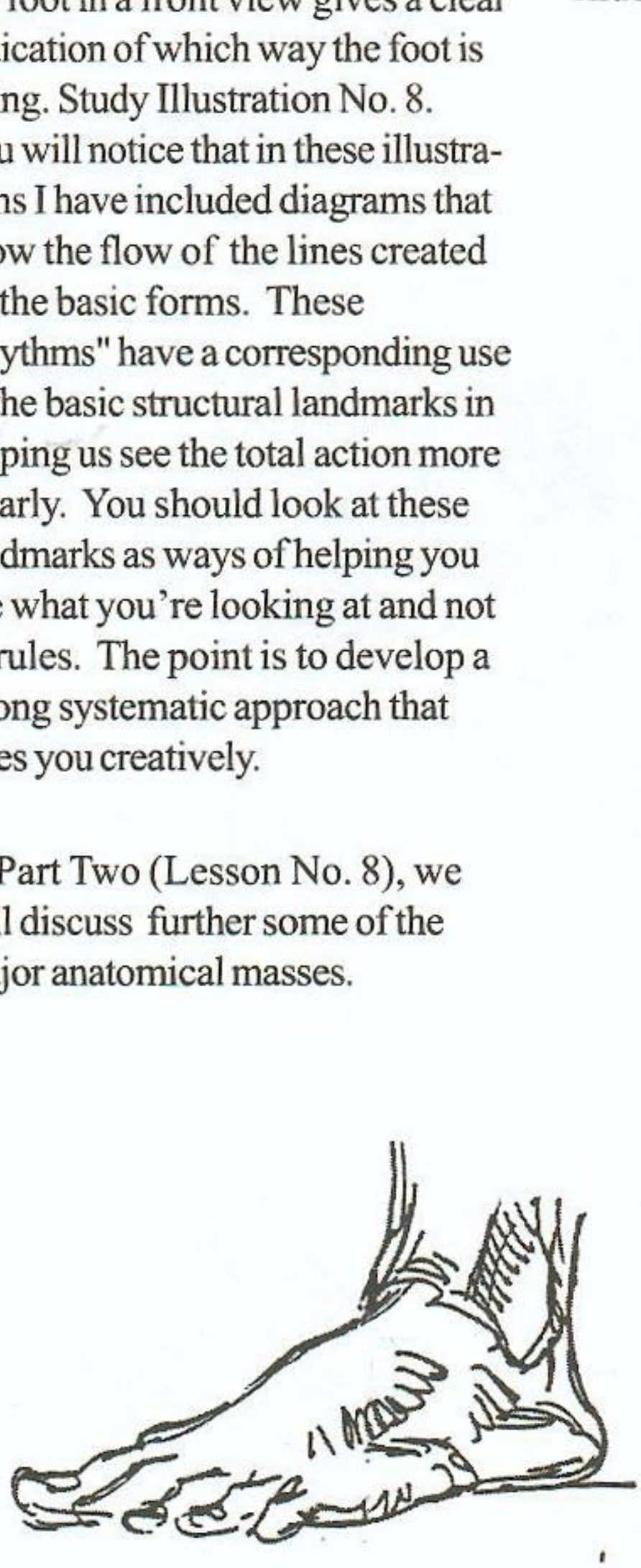


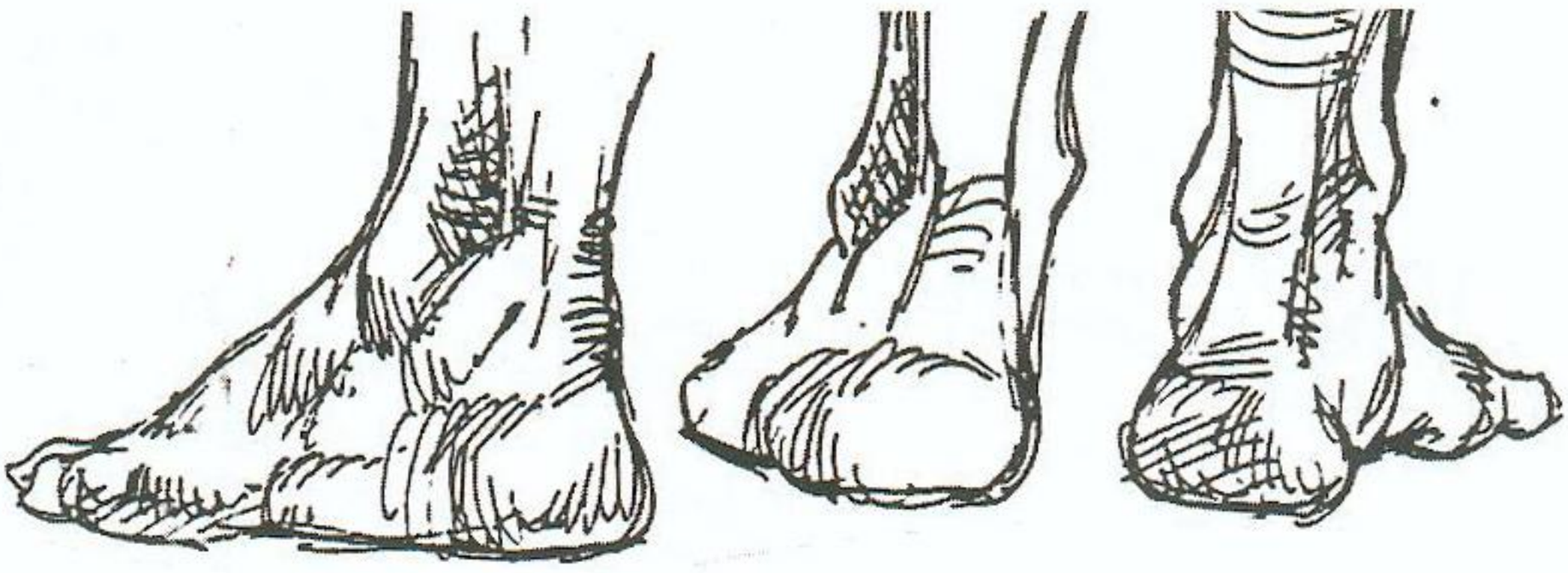


The way the fibula and tibia fit into the foot in a front view gives a clear indication of which way the foot is going. Study Illustration No. 8.
You will notice that in these illustrations I have included diagrams that show the flow of the lines created by the basic forms. These "rhythms" have a corresponding use to the basic structural landmarks in helping us see the total action more clearly. You should look at these landmarks as ways of helping you see what you're looking at and not as rules. The point is to develop a strong systematic approach that frees you creatively.

In Part Two (Lesson No. 8), we will discuss further some of the major anatomical masses.

Illustration No. 8





Using Anatomy: Part Two

In the last lesson, we concentrated on the specific land marks of anatomy we use with the symmetry of the figure to help us see and draw the action of the figure. The next step in using anatomy is learning to see the large anatomical masses. In the first four lessons we laid much of the groundwork by concentrating on simple forms as a means of analyzing the figure as a total. This lesson is a continuation of that procedure, breaking those larger units into smaller units, while at the same time adding a new level of believability to our drawings. Of course, we are also adding to the complexity of our drawing. It is important to remember that these new forms that we add should not distract from the

Illustration No. 1

readability of the action. Any additions of detail should help to clarify the action and add to our understanding of the subject.

"Remember, do not copy, but analyze the model."

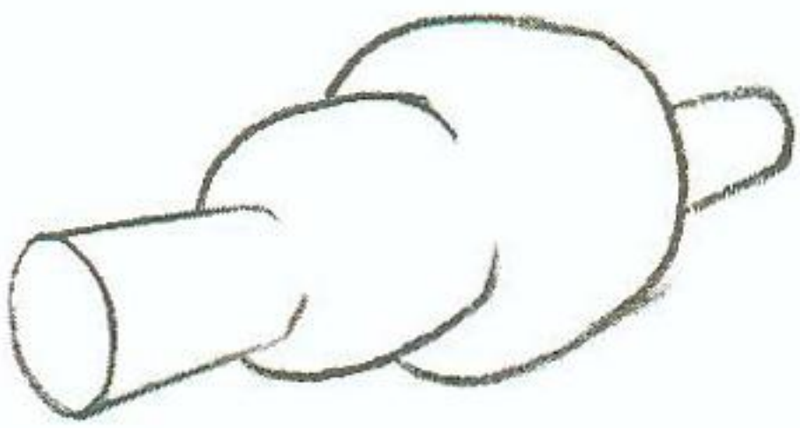
First, we need to look at some basic ways that forms connect. Illustration No. 1 gives you some of the basic situations in which forms interact. The primary ingredient in achieving any success at this hinges upon your ability to analyze form. There are two main elements of this analysis. The first is to be able to see the total, which has been the primary concern of these lessons up to now. The second is to develop the ability to see the surface of the form. This will be a primary ingredient of the next few lessons.

Illustration No. 1-A shows a simple raised area of a form . It is

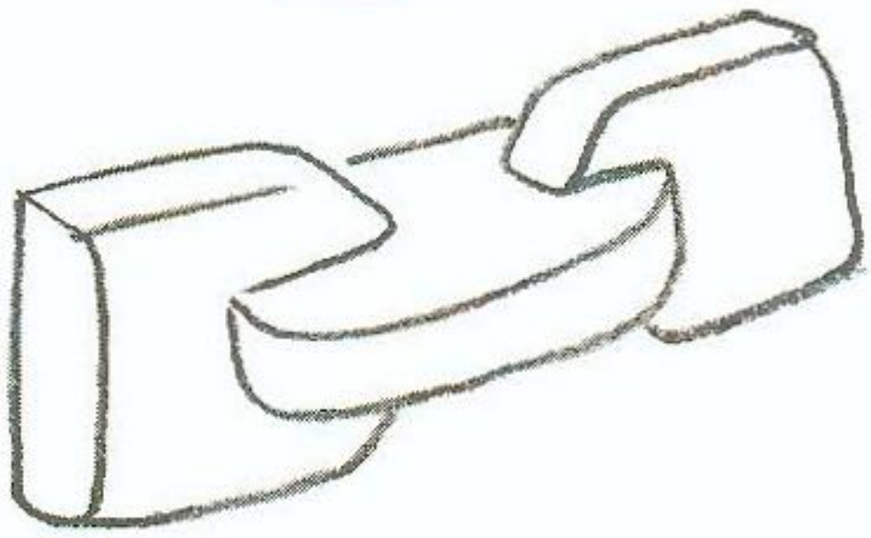
A

B

C



D



important that you develop your skill in analyzing this simple kind of form. One way to start doing this is to take some kind of striped material and drape it over an object or just crumple it up. Now take your pencil and follow a line going up and down and around, following the line until you reach the lend. Do this for each stripe until you have a clear picture of the surface of the form. This is no different than a computer generated wire frame drawing of an object. See Illustration No. 2A.

Illustration 2B may look different but the way the lines go over and around the form are actually very similar to 2A. The main difference is that the lines are not as mechanical in feeling or application.

Many art school exercises that have become art forms in themselves are based upon dealing with this basic problem. To achieve success at this you must visualize your pencil as actually being on the form that you are drawing, reacting to every nuance of change in direction that the surface of the form takes.

Illustration No. 2A

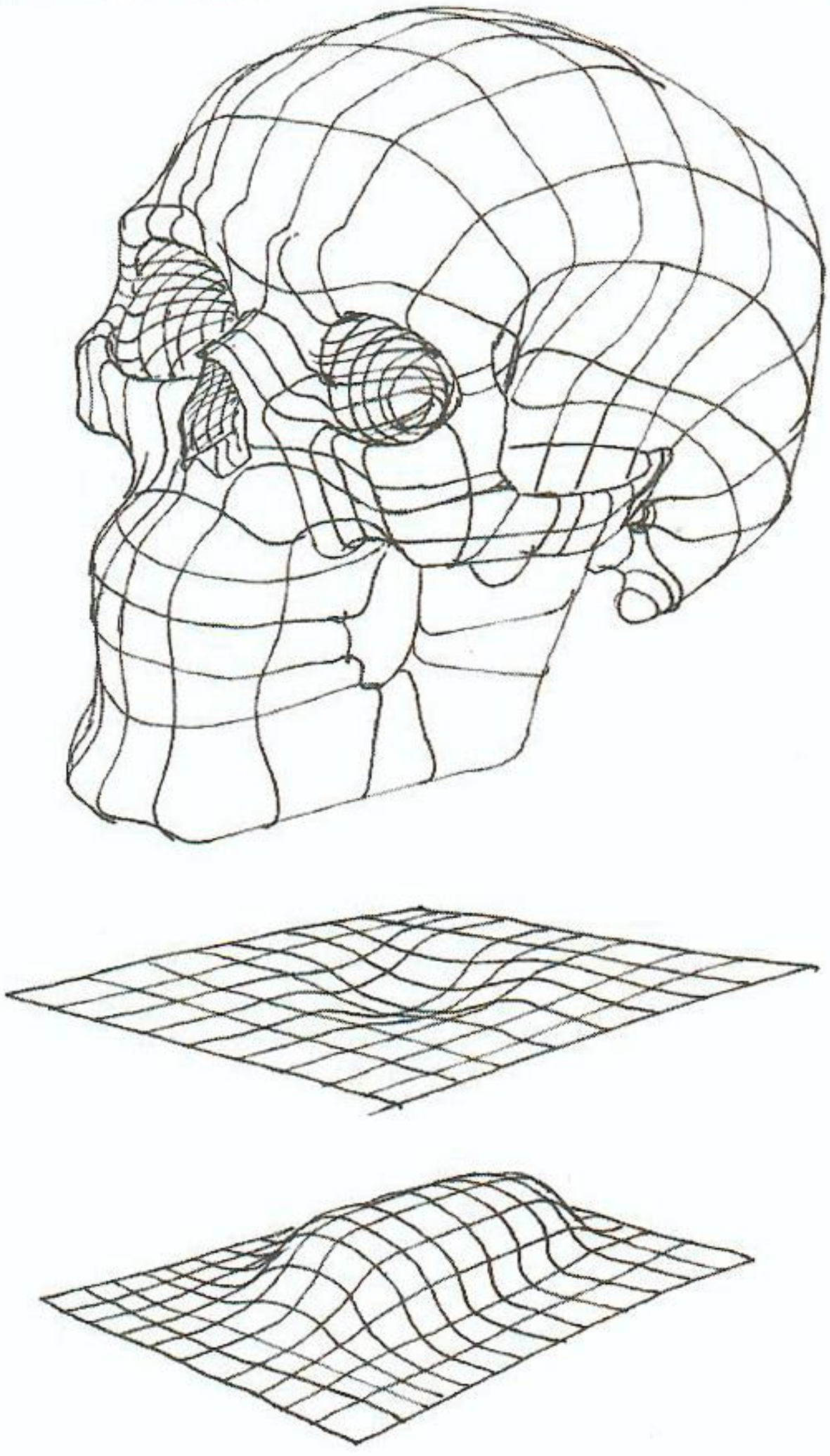


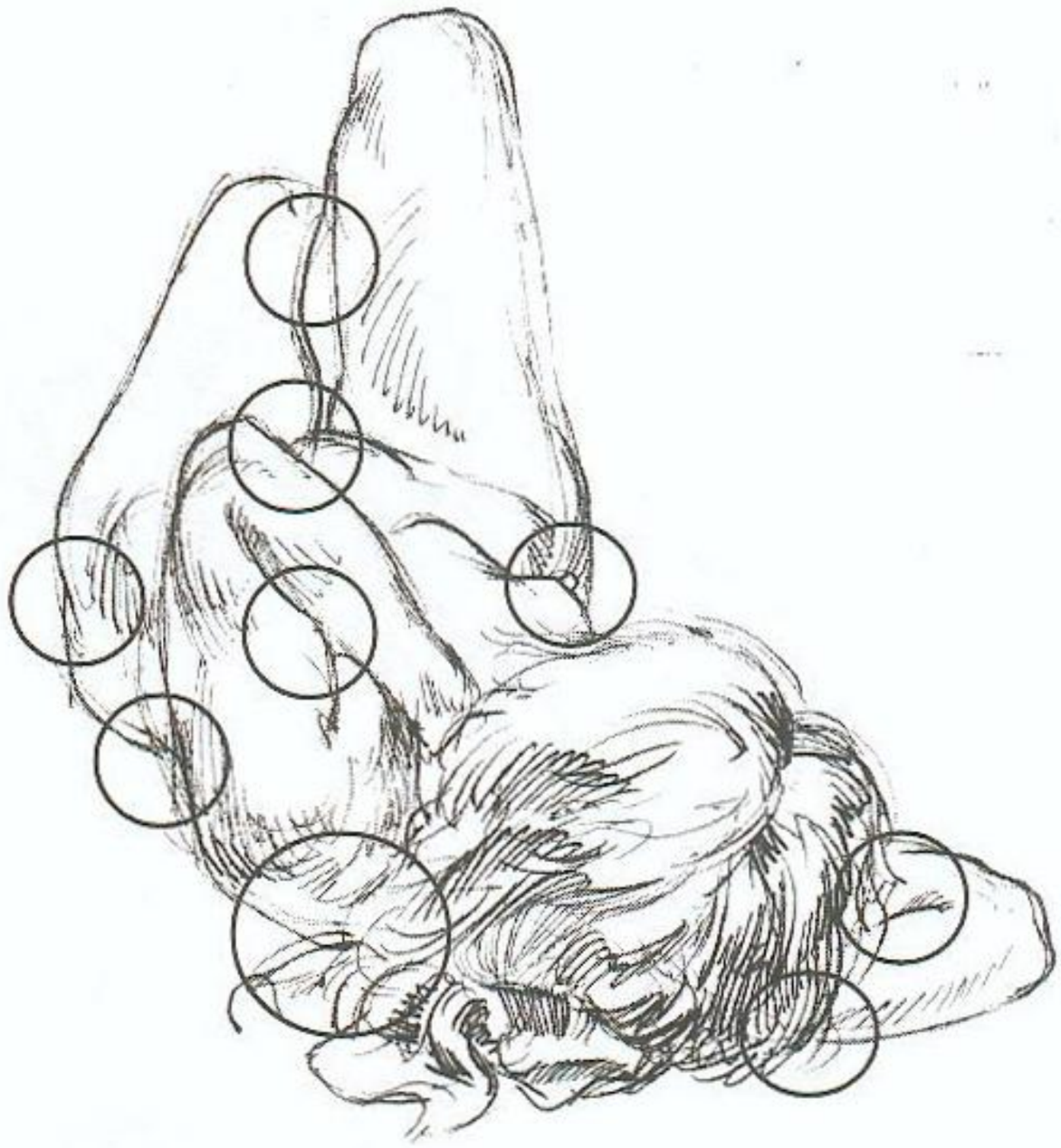
Illustration No. 2B

When I was in school, I had an instructor suggest that you should pretend that you were an ant crawling over the surface. At the time I thought how ridiculous this was. What I wanted to do was draw like Michelangelo, not like an ant walking across an arm. The imagery may have seemed ridiculous but the attitude and skills developed by the exercise were not. In fact, looking at the great masters, including Michelangelo, you will notice the incredible level of skill they had in being able to describe form, be it a building or an arm.

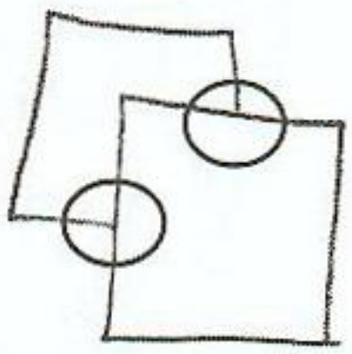
Now let us look at some of the basic elements that are represented in the examples of Illustration No. 1. When you are drawing form you are primarily involved in showing the change in direction of a form. That is why it is so important that you understand and can clearly describe the surface of the form you are drawing. In Illustration No. 1-A, the way in which the small form overlaps the larger form gives a strong sense of relief or 3D. Look at Illustration No. 3 and compare the different ways the drawings were done. Notice how the overlapping and feeling of going behind aid in giving a sense of volume to the form.

Conversely, notice that by not overlapping or by creating tangents the form tends to flatten out.

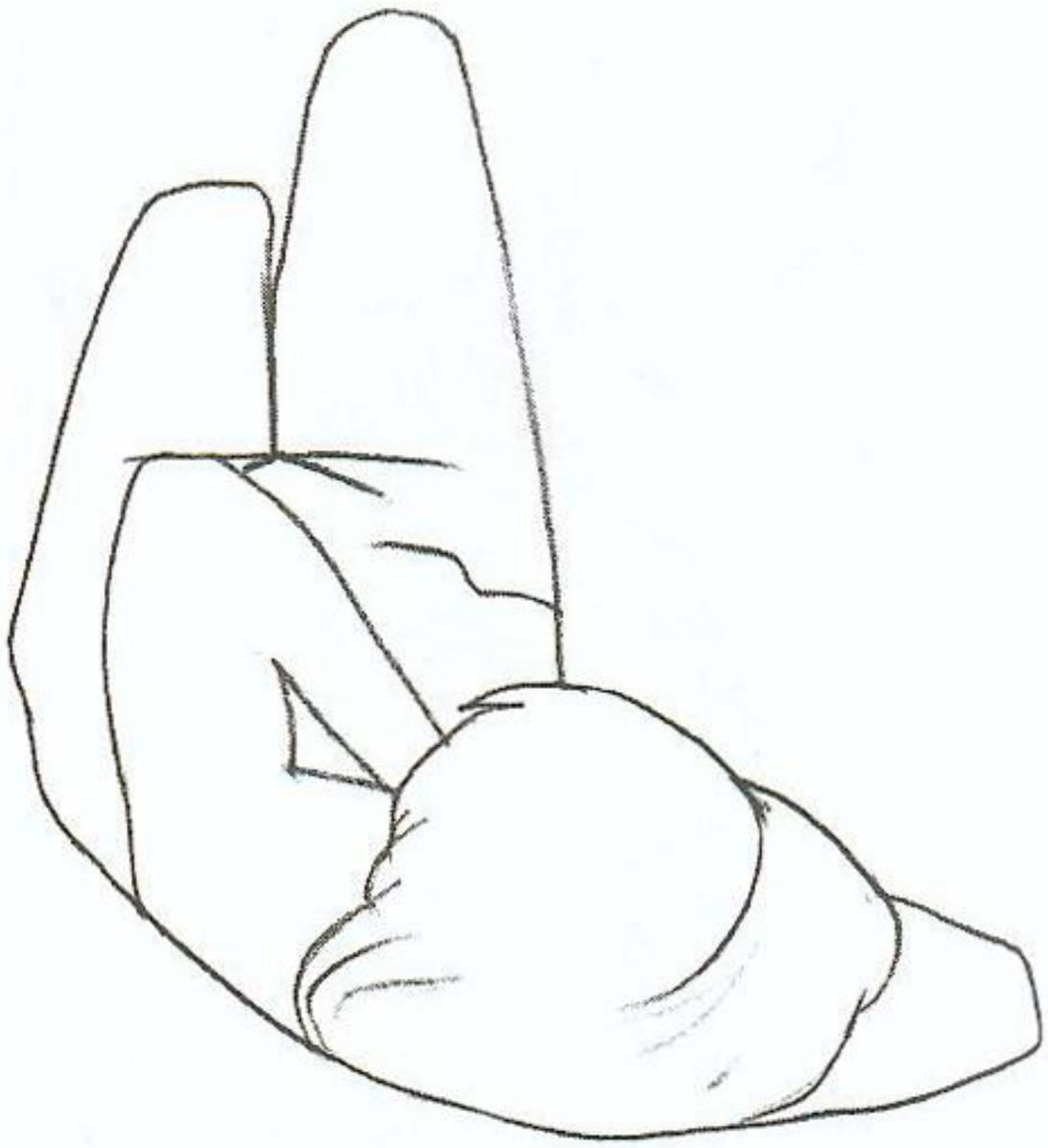
Illustration No. 3

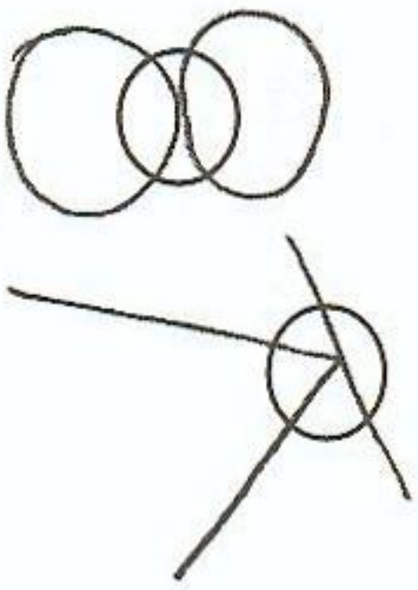


A simple way to help you remember this concept of overlapping is to think of a "T" as one of the basic elements.



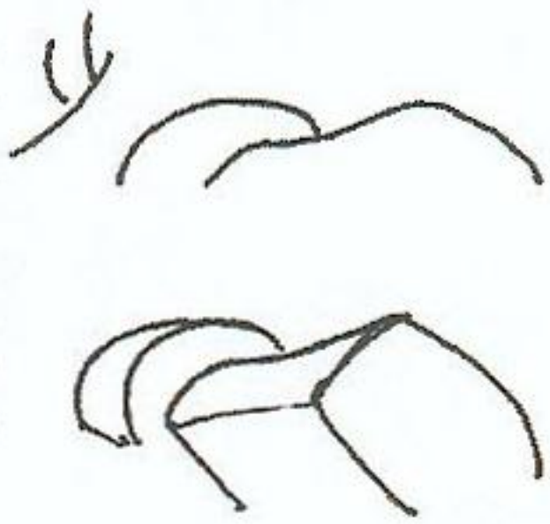
A tangent is when you have elements that come together in such a way as to make it unclear which form is in front.

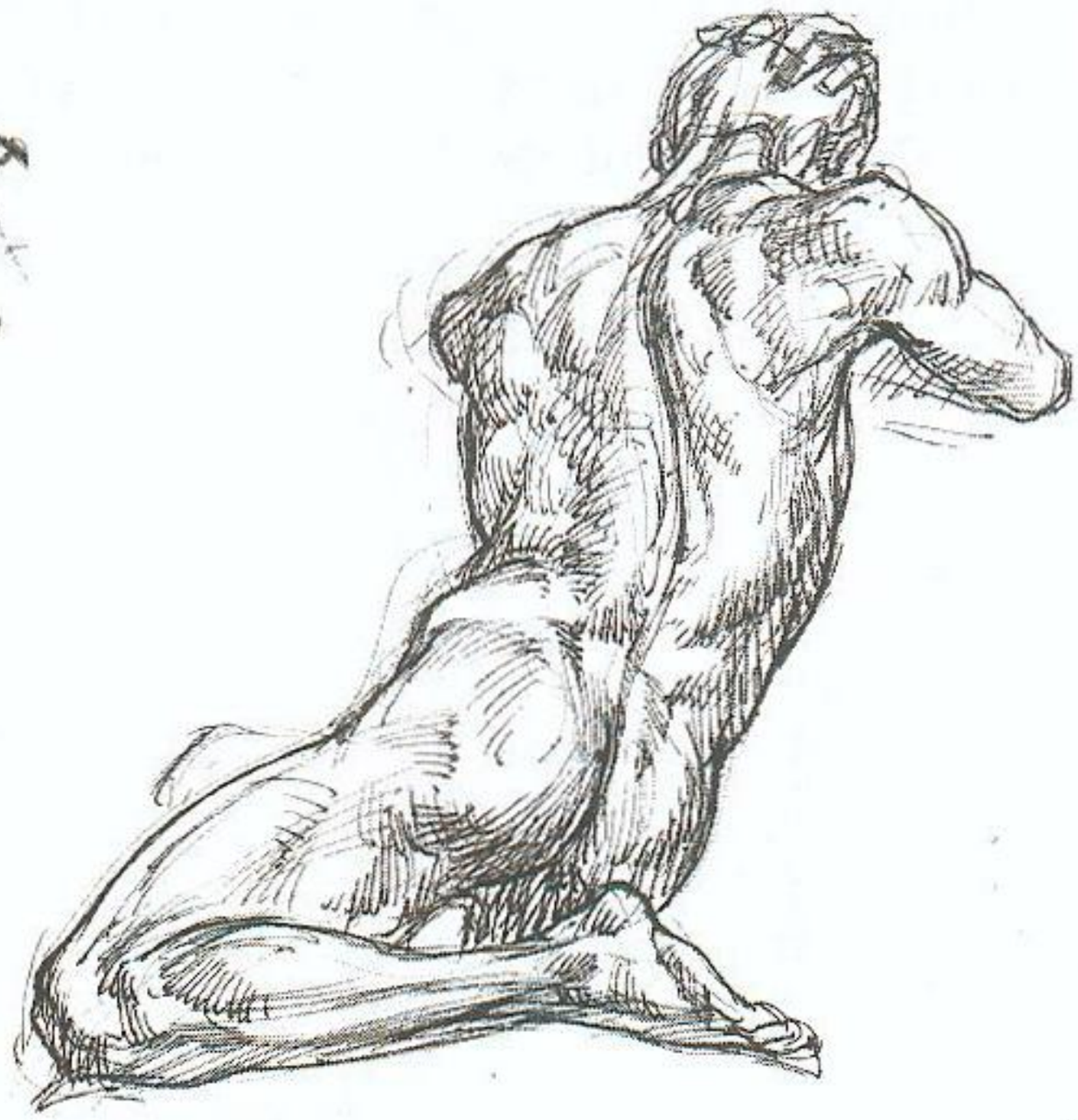


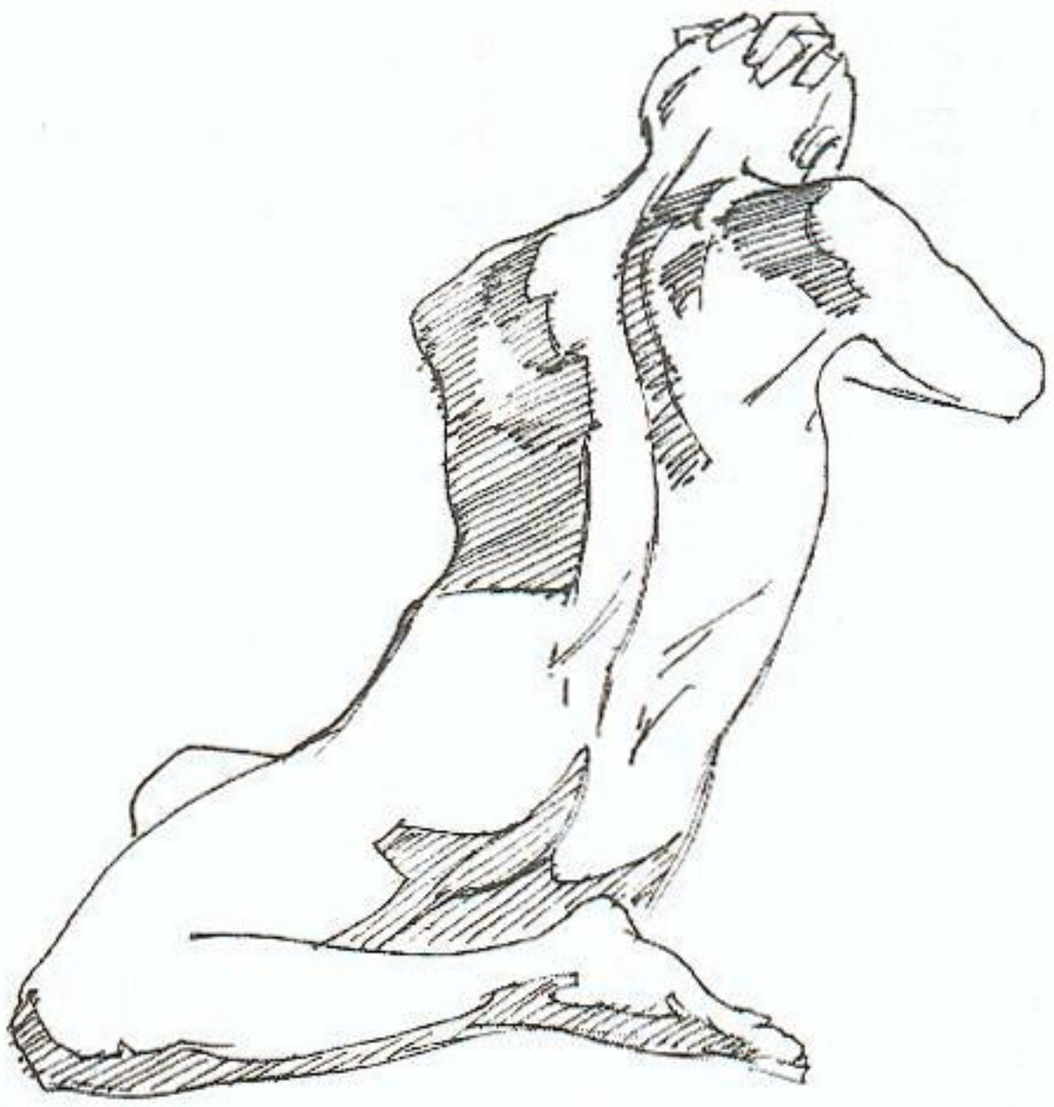


Even though this figure has some overlapping forms in comparison to the upper figure, it is quiet flat.

Study the drawing below and the details to see how overlapping helped to give a sense of volume. Then compare it with the same drawing at the bottom of the page without many of these same tools that help to create a sense of volume.







Let us start going through some of the basic anatomical masses we deal with in the figure. Keep referring to Illustration No. 4 as you read this explanation. Of course, the basic form of the upper torso is the oval of the rib cage (A). This is the foundation that we build on. The neck is a simple cylinder (B) and the head another oval (C). In Part One (Lesson No. 7), the clavicle and scapulas were some of the landmarks that we discussed in our initial stages of the drawing.

Illustration No. 4

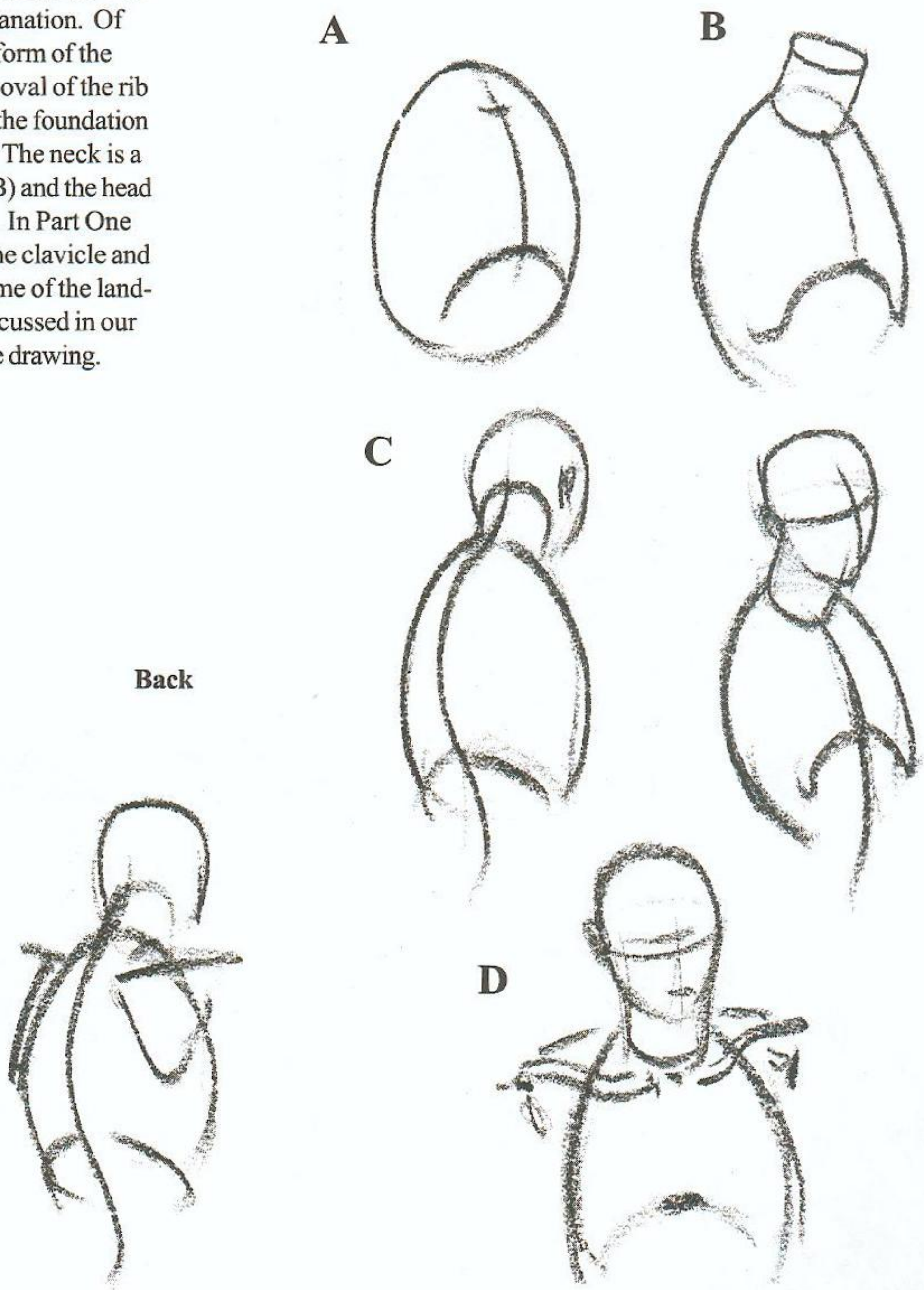


Illustration No. 5

Now visualize these two elements as a yoke that slips over the neck and rests on the rib cage (Illustration No. 5). Next, from the front, look at the pectorals muscles (Illustration No. 6). They attach to the rib cage and to the clavicles at the top, the sternum in the center, and pull over to the arms from the rib cage. **Do not lose sight of the round mass of the rib cage.**

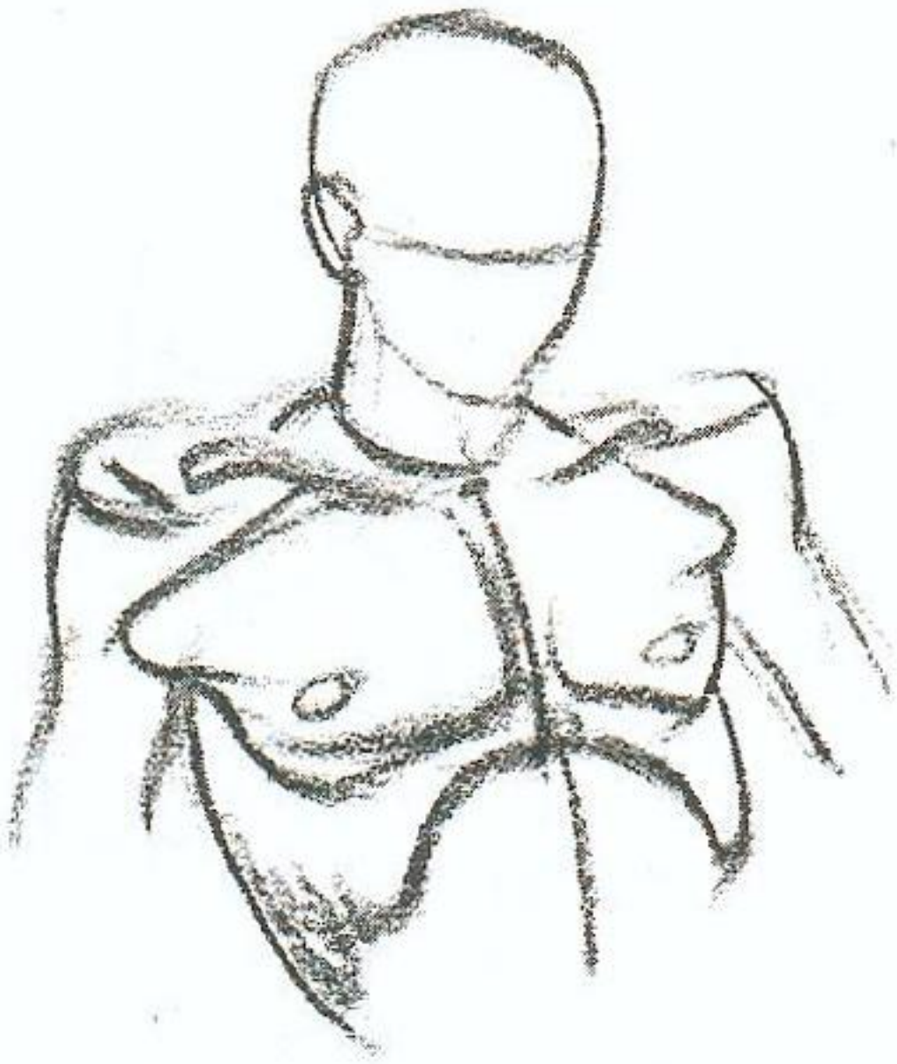
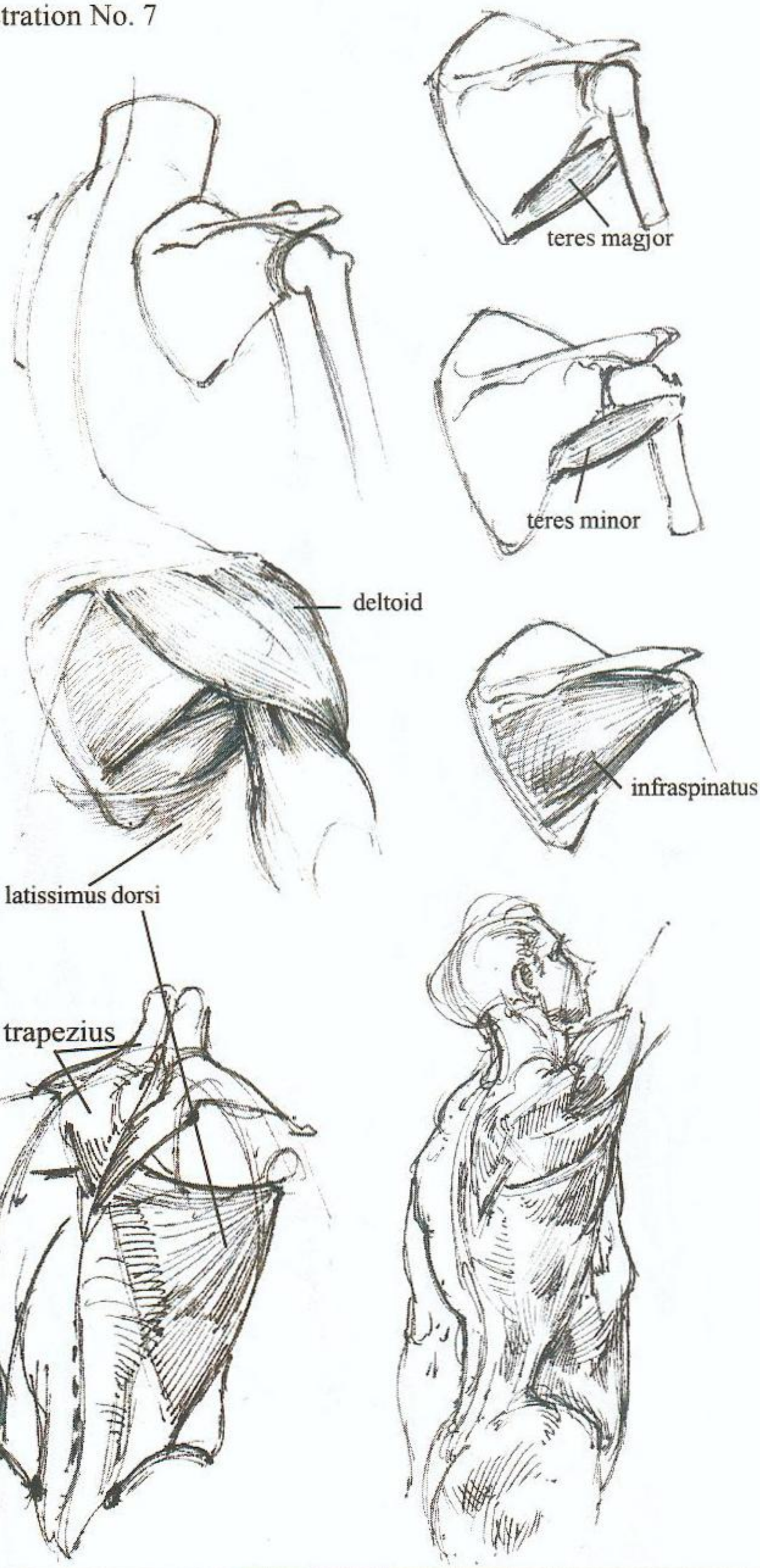


Illustration No. 6

From the back, notice how the scapula floats on top of the rib cage (Illustration No. 7).

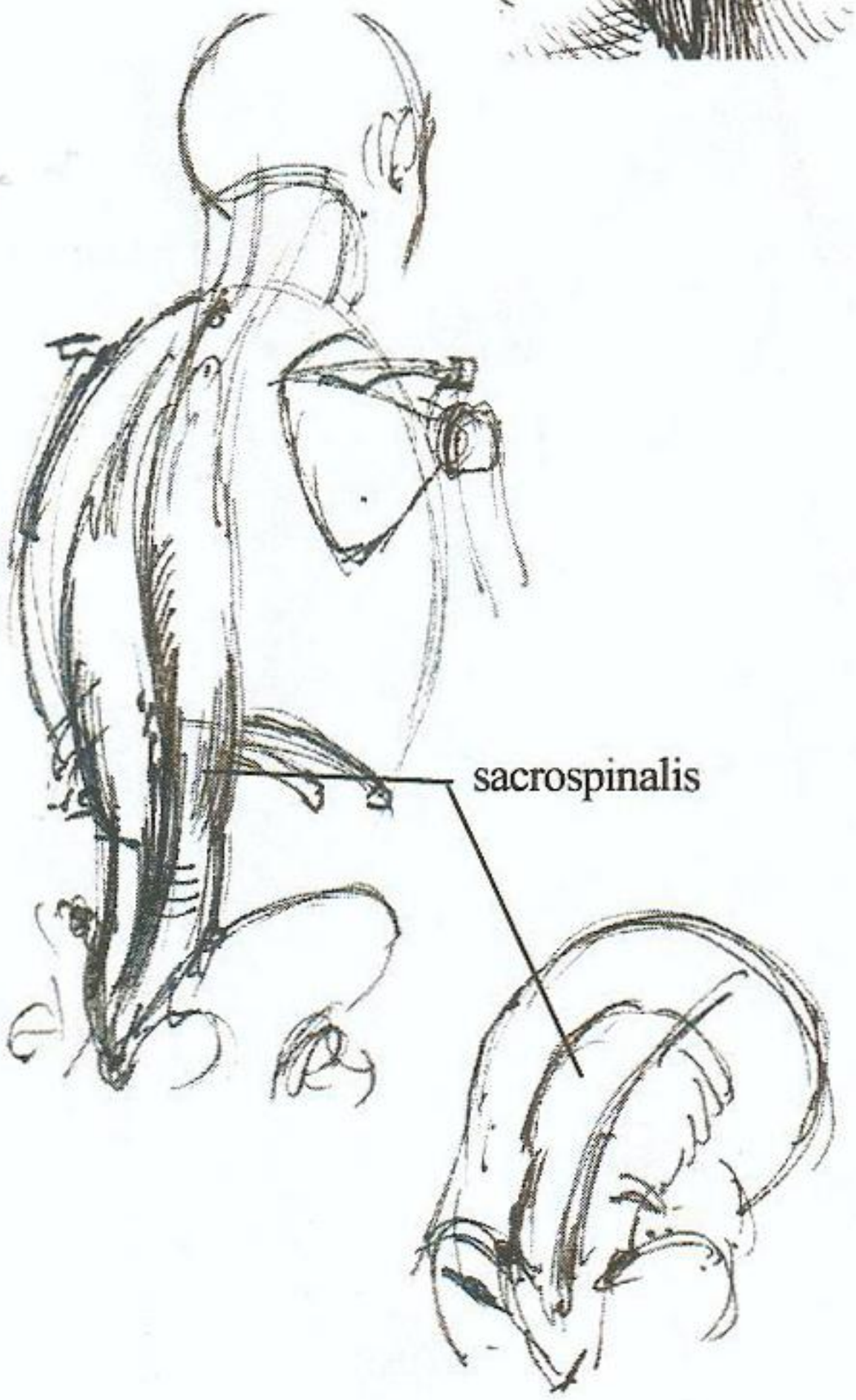
The muscles of the scapula, (infraspinatus, teres minor, and teres major), build on top of the basic scapula form. We, at this point, also have the latissimus dorsi muscle which lies over the bottom of the scapula, pulls up into the arm at the top, and goes down to the pelvis at the bottom. These forms pull into the cylinder of the arm. The top of the cylinder is the deltoid we discussed in the previous lesson. Notice how the pectoralis major, the teres, and the latissimus dorsi give a strong sense of 3D by their overlapping. As the pectoralis and teres muscles fit into the arm, you should be seeing them as parts of simple cylinders. You should not miss any opportunity in using lines that go across or around the form to describe volume. It is also important, at this point, to look at the trapezius muscle. First, the trapezius helps us see the end of the neck as it fits into the skull. As the muscle comes down to the shoulders, it comes around to the clavicles and attaches around the arc of the clavicles and scapula meeting the end of the deltoid and continuing down the spine of the scapula. The critical area in drawing this muscle is the transition across the shoulder to the neck. Don't think just anatomy, but try to use your understanding of the anatomy to create form.

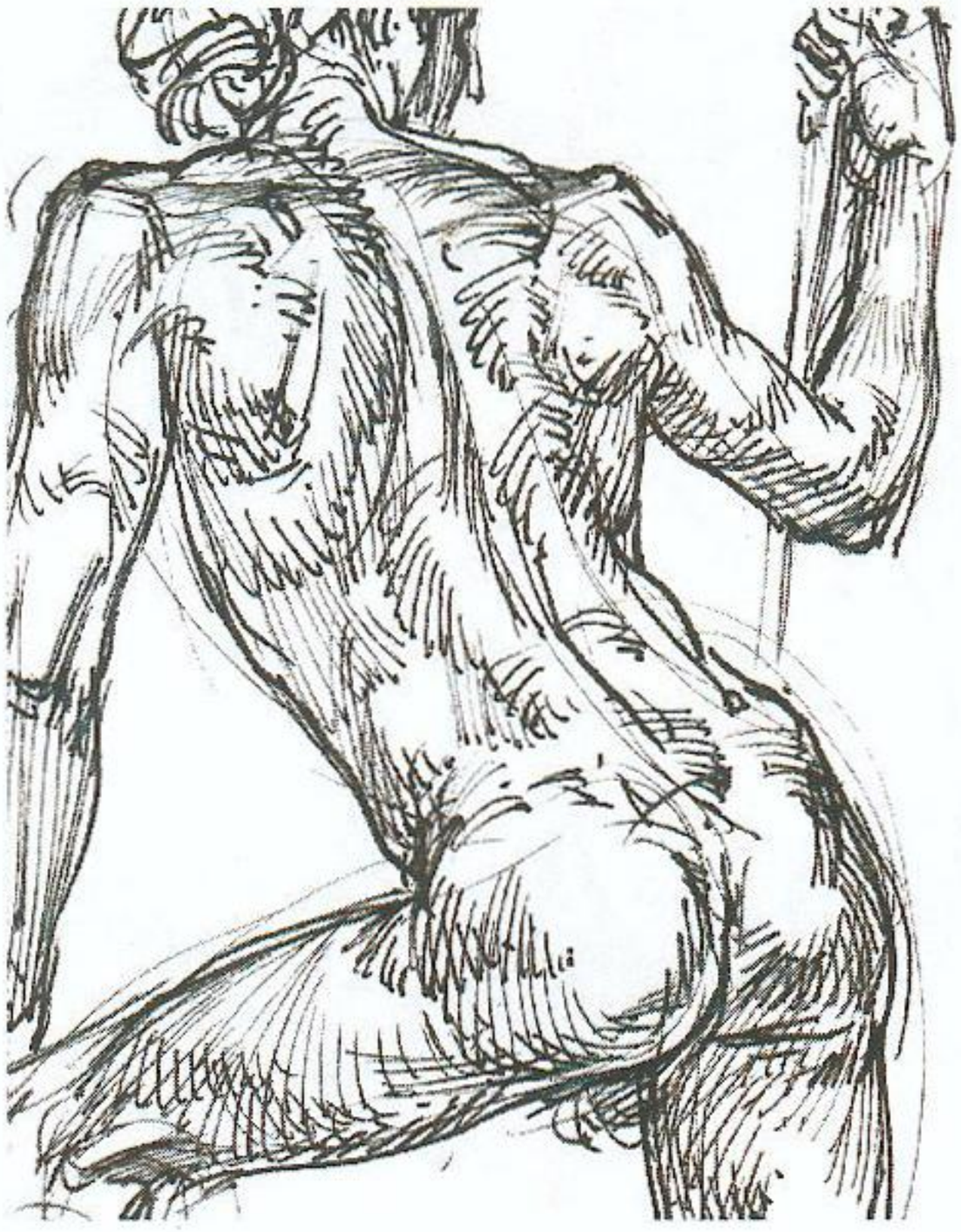
Illustration No. 7



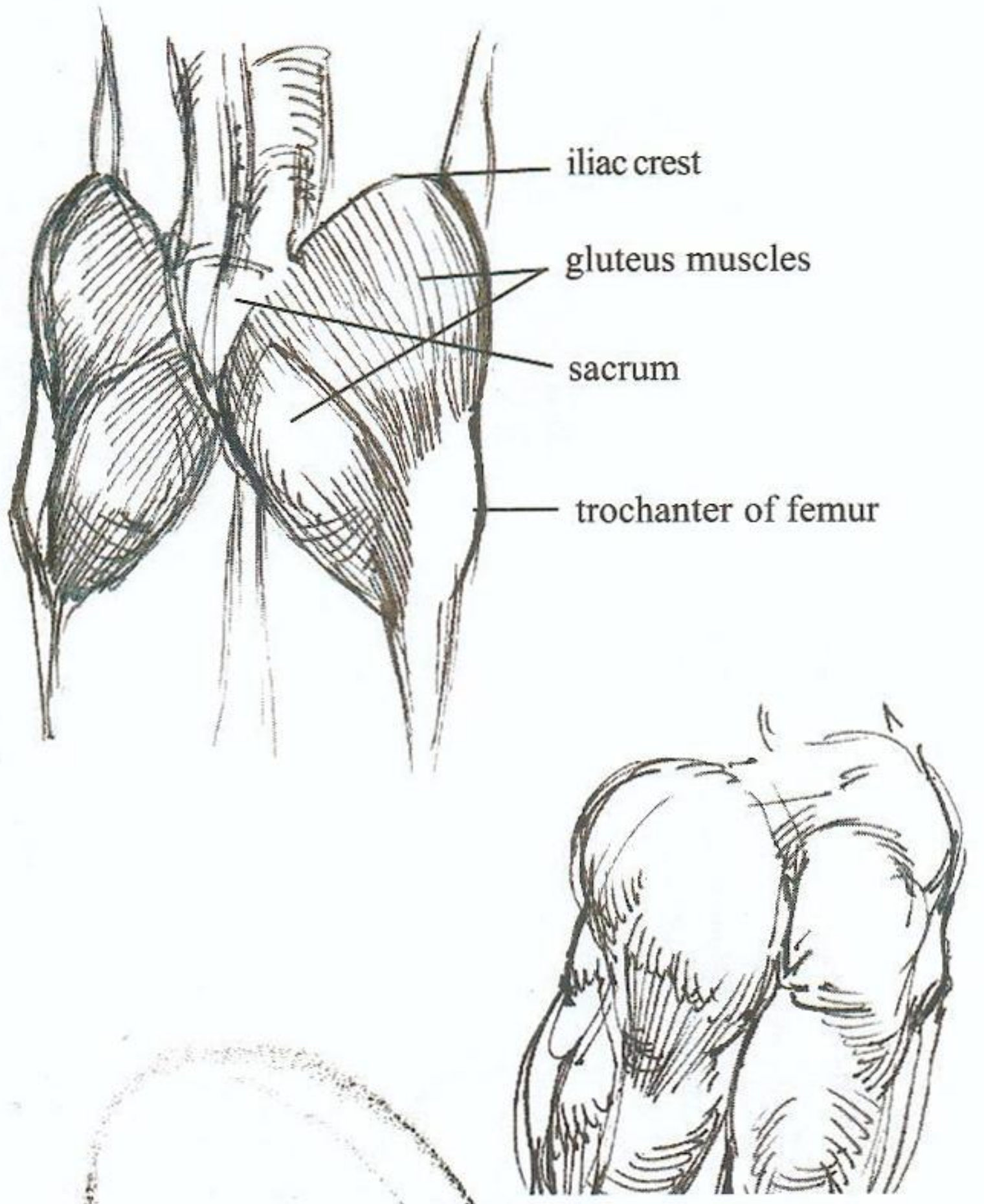
Moving down the back, we have the two large muscles that go along the sides of the backbone (sacrospinalis), coming from the sacrum up along the back bone fitting into the ribs.

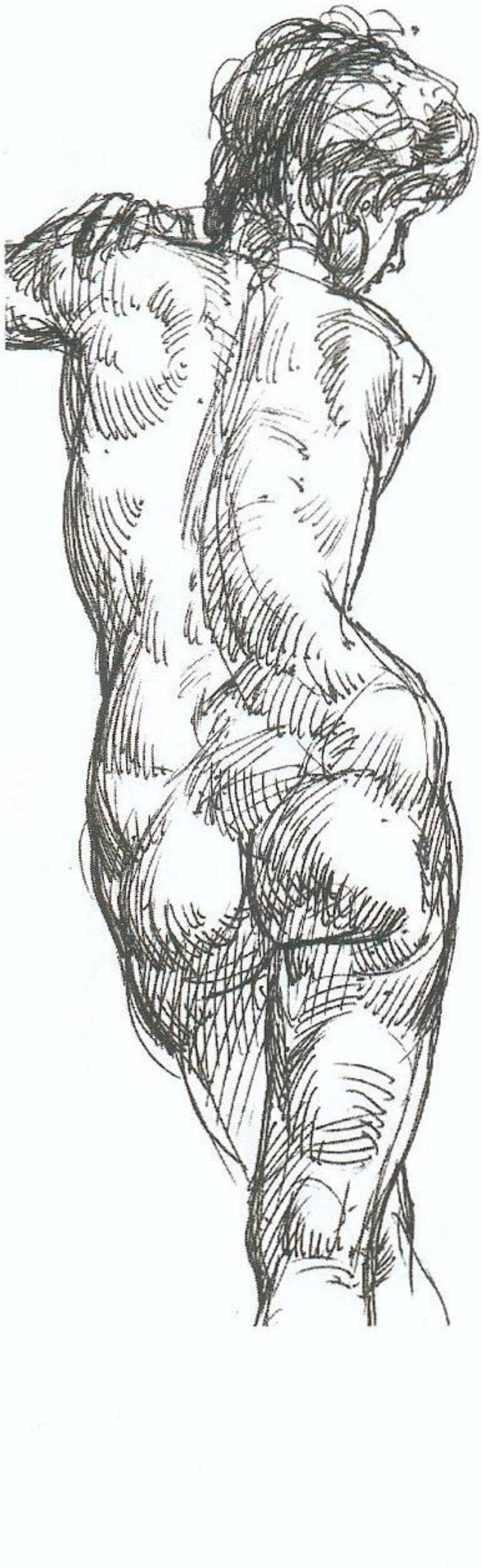
Again, notice how the basic volume of the rib cage is still the dominant element that these forms fit into.



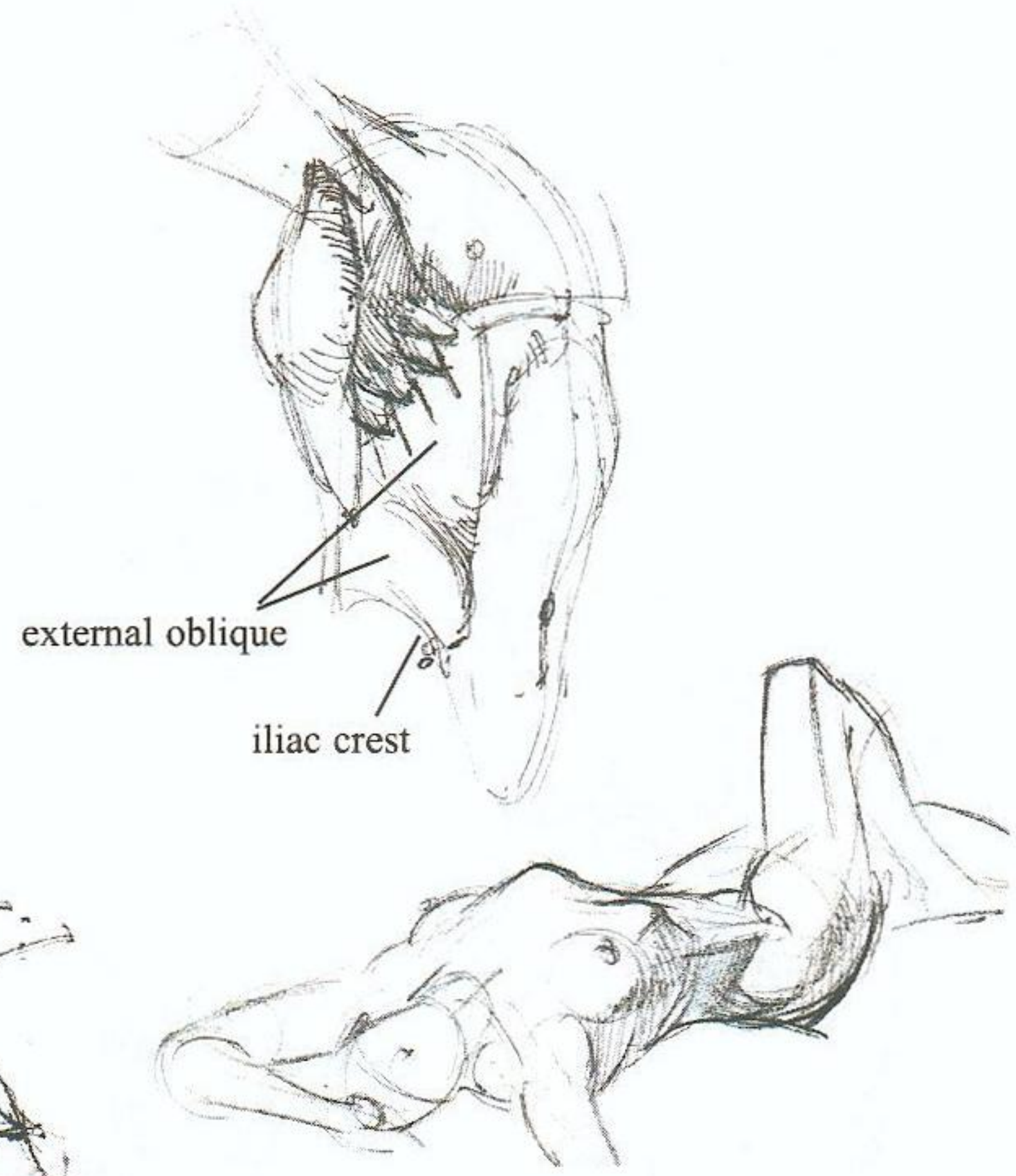


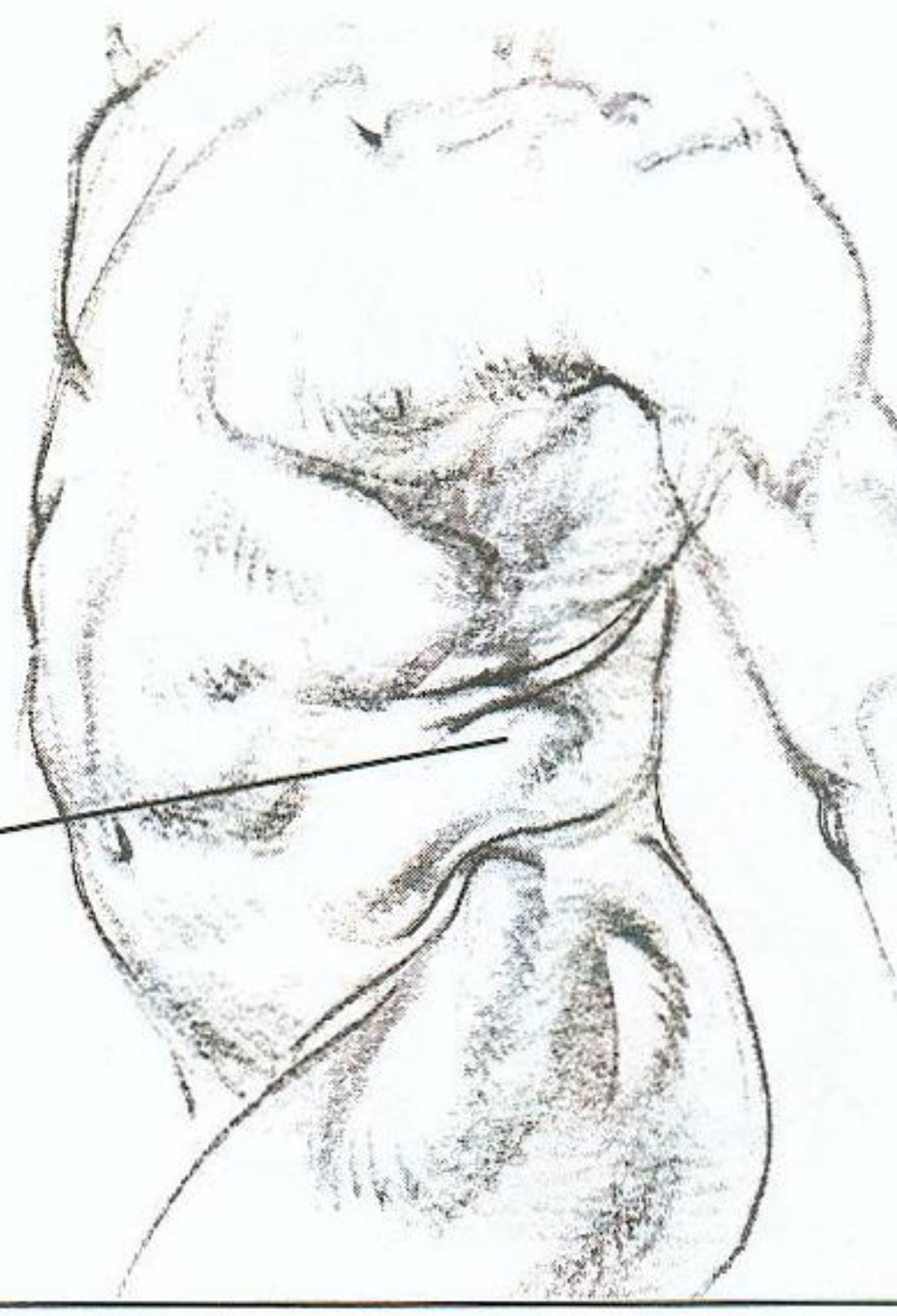
The buttocks muscles, the gluteus maximus and medius, attach to the sacrum and the illiac below the crest, and insert at the hip bone (the trochanter of femur). Depending on the model, these forms lend themselves to simple spherical forms or boxes. The main point is to look for the inside corners of the form and pay particular attention as to how they connect to the leg.

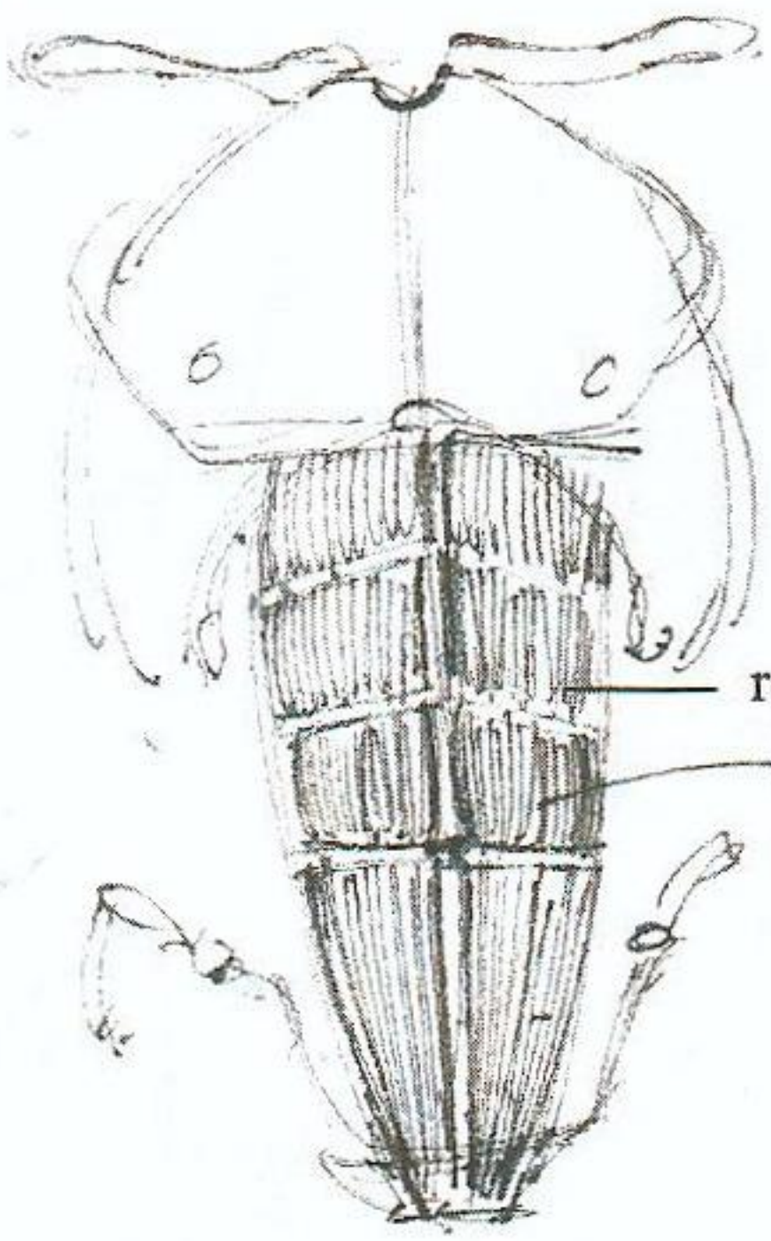




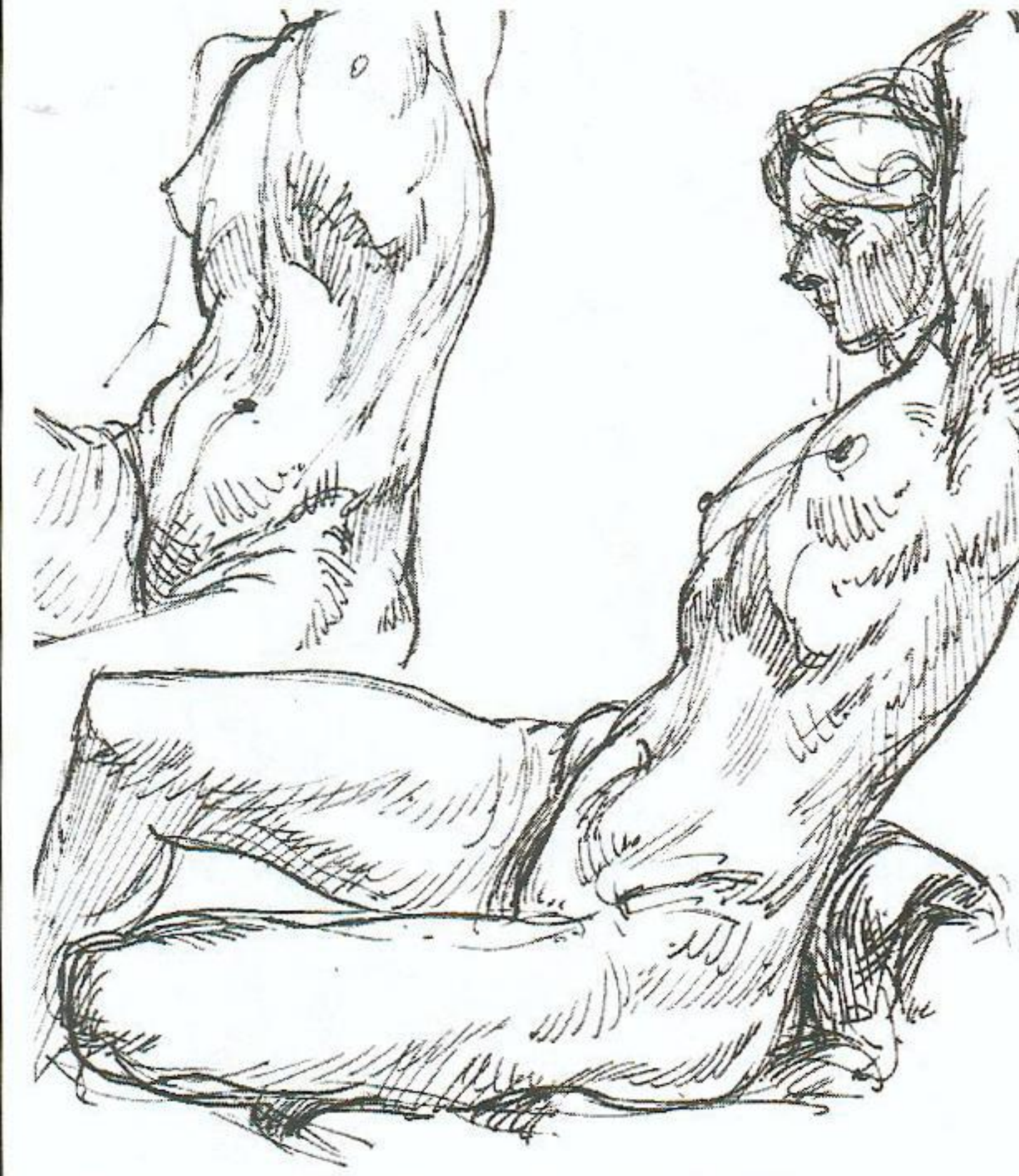
As we start around towards the front again, the external oblique, or flank pad as it is called, is the dominant form. The bottom margin is the iliac crest of the pelvis. The top fits into the ribs interconnecting with the muscles coming from under the scapula. At this point, concentrate primarily on the basic shape and how it works with both the pelvis and rib cage. This is the form that we most often see, stretching and compressing or bulging out. It is important to see how the rib cage fits into it.

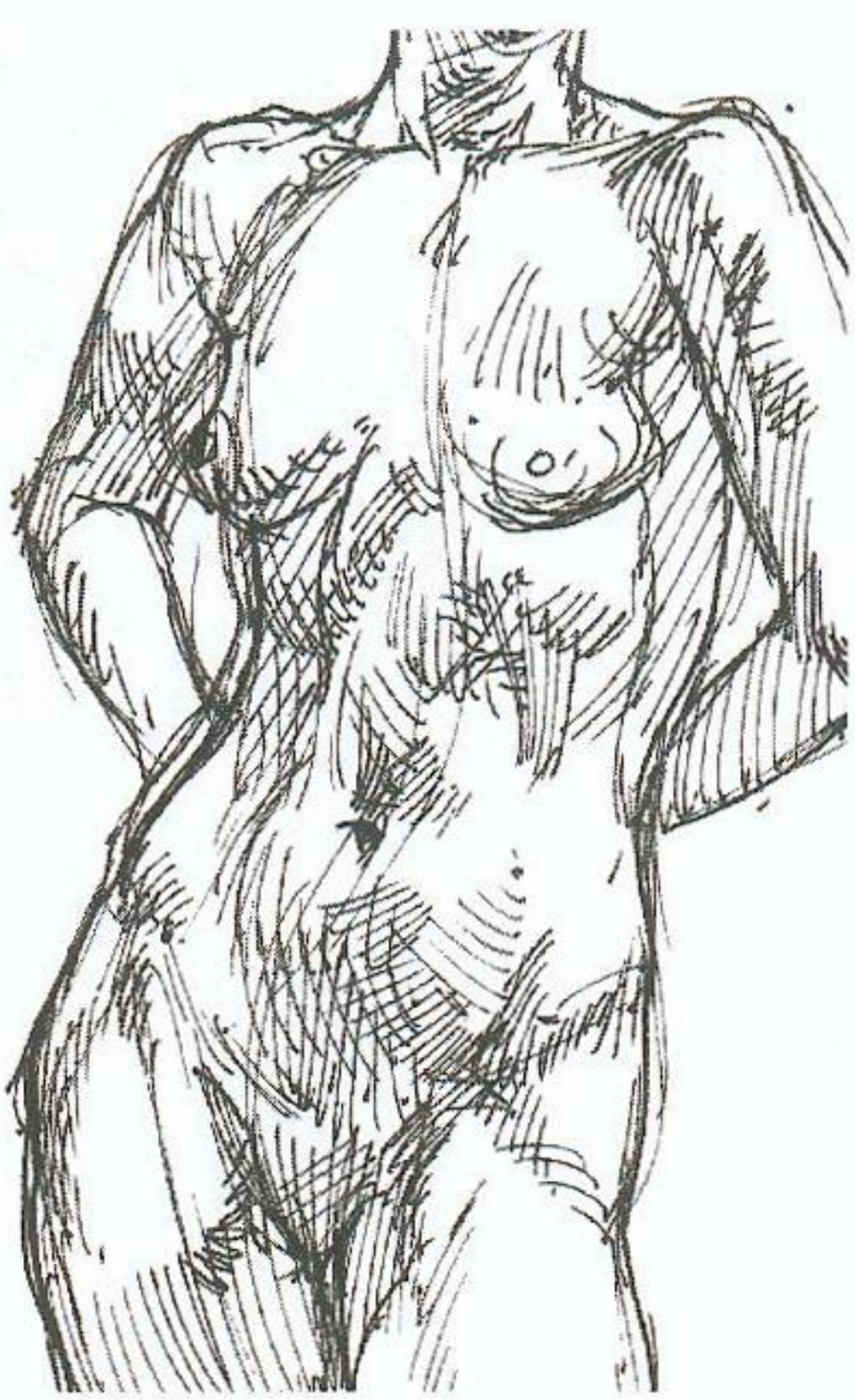


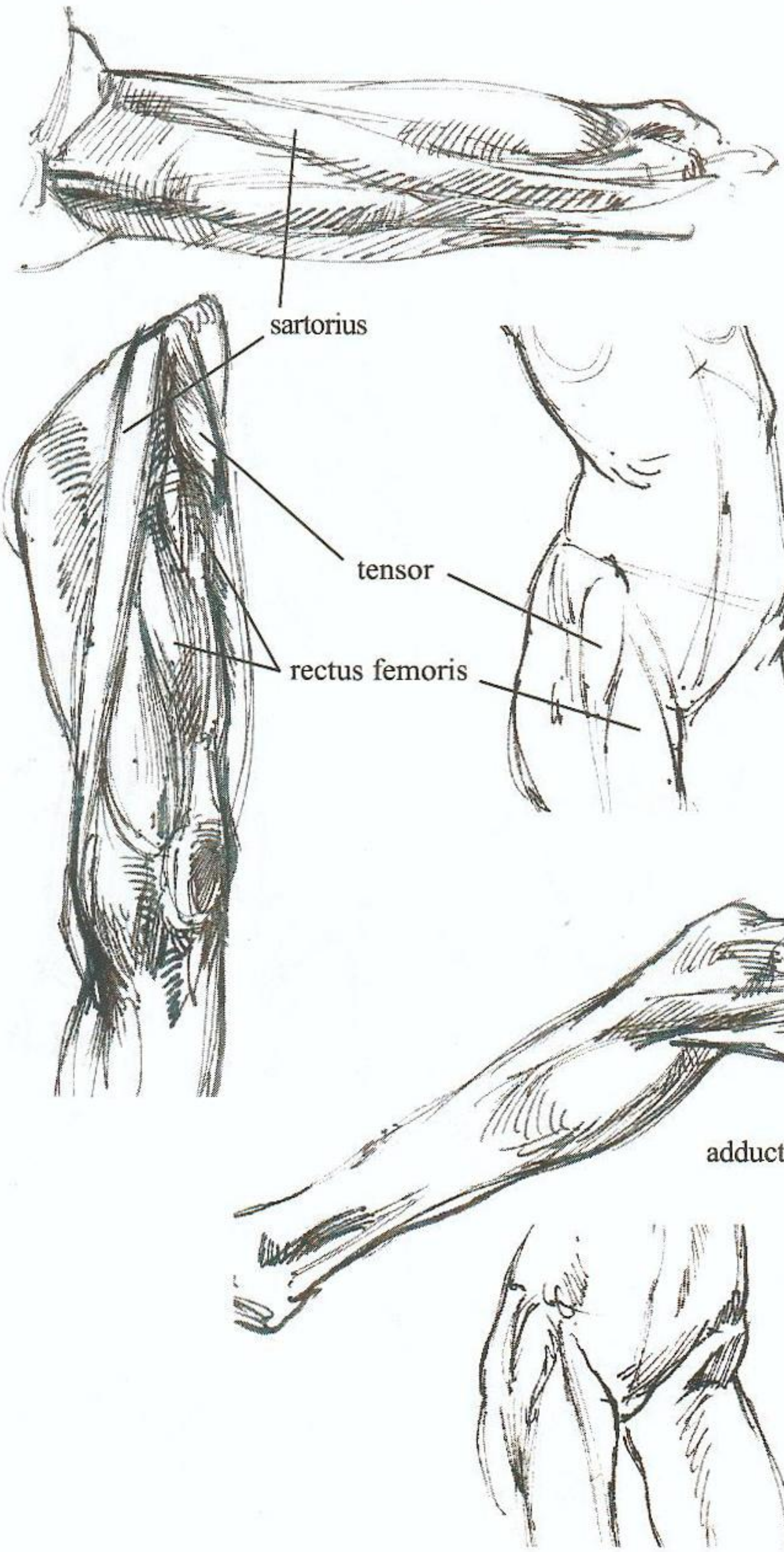




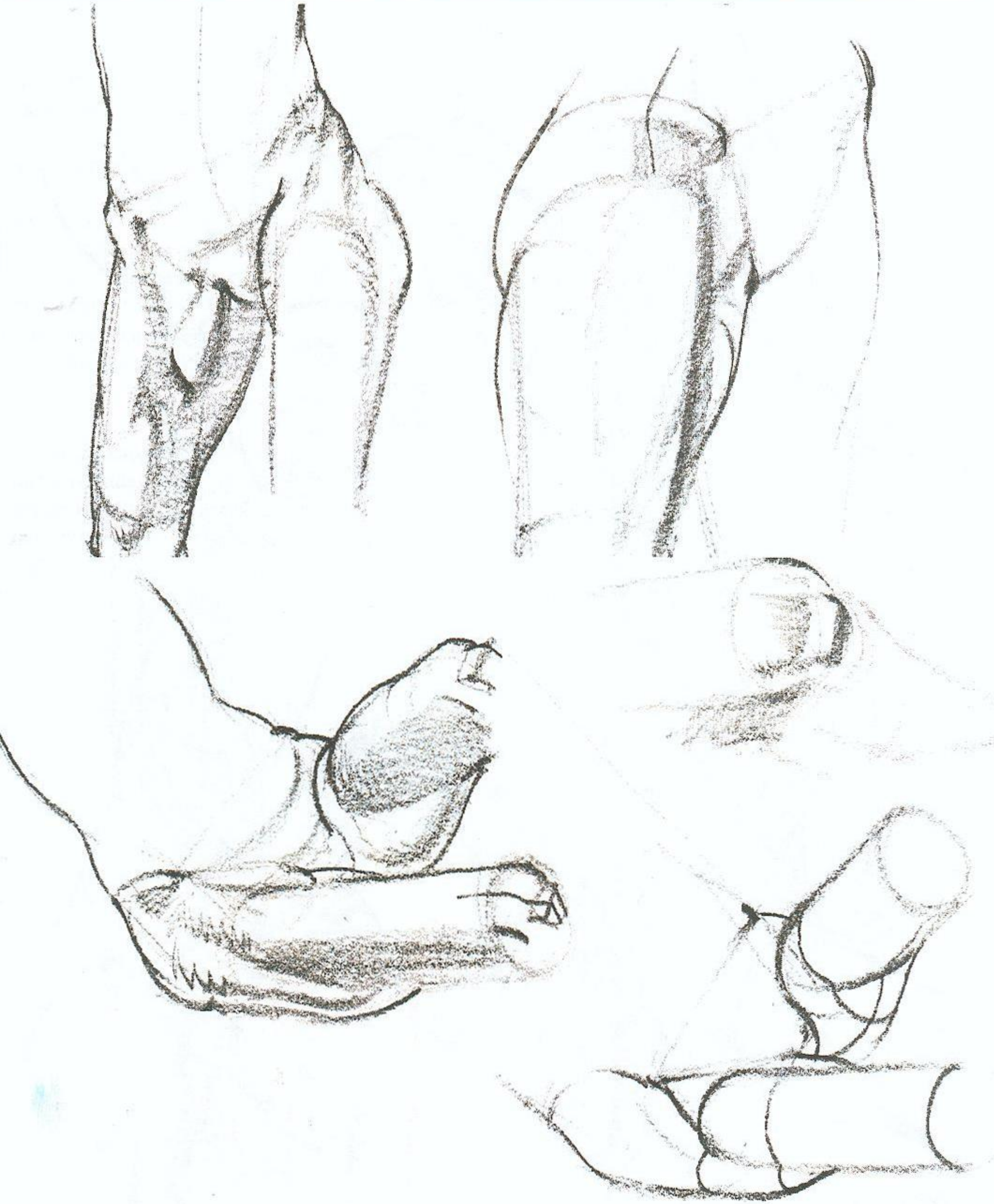
From the front, the primary muscle that we work with is the rectus abdominis which is attached at the top of the rib cage, and at the bottom, to the pubic arch. The main elements are the clear boundaries on the sides and down the center. The tranverse line created by the interrupting tendons are what give the characteristic shape of the well-developed stomach muscles. The planes created by similar lines on the sides, those that separate the rectus abdominis from the external oblique, are important elements in understanding the major forms of the front of the torso.





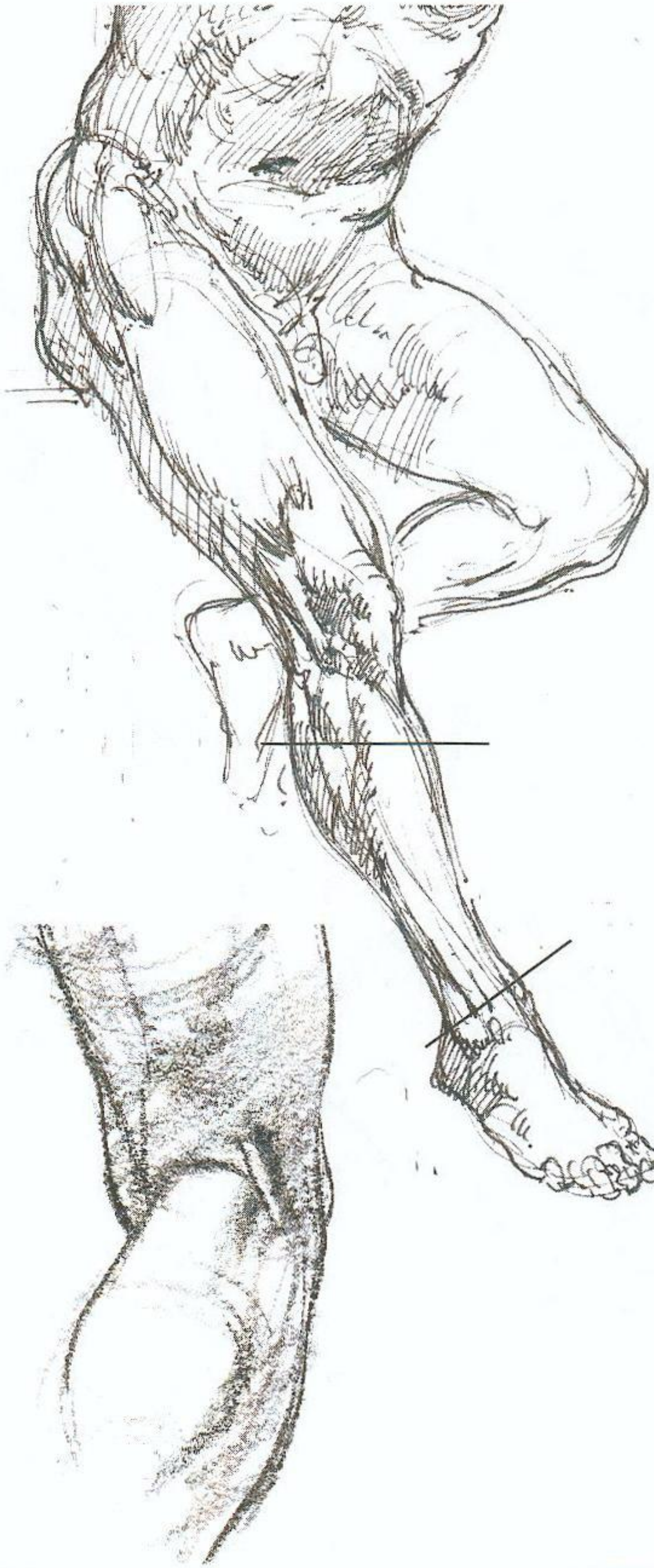


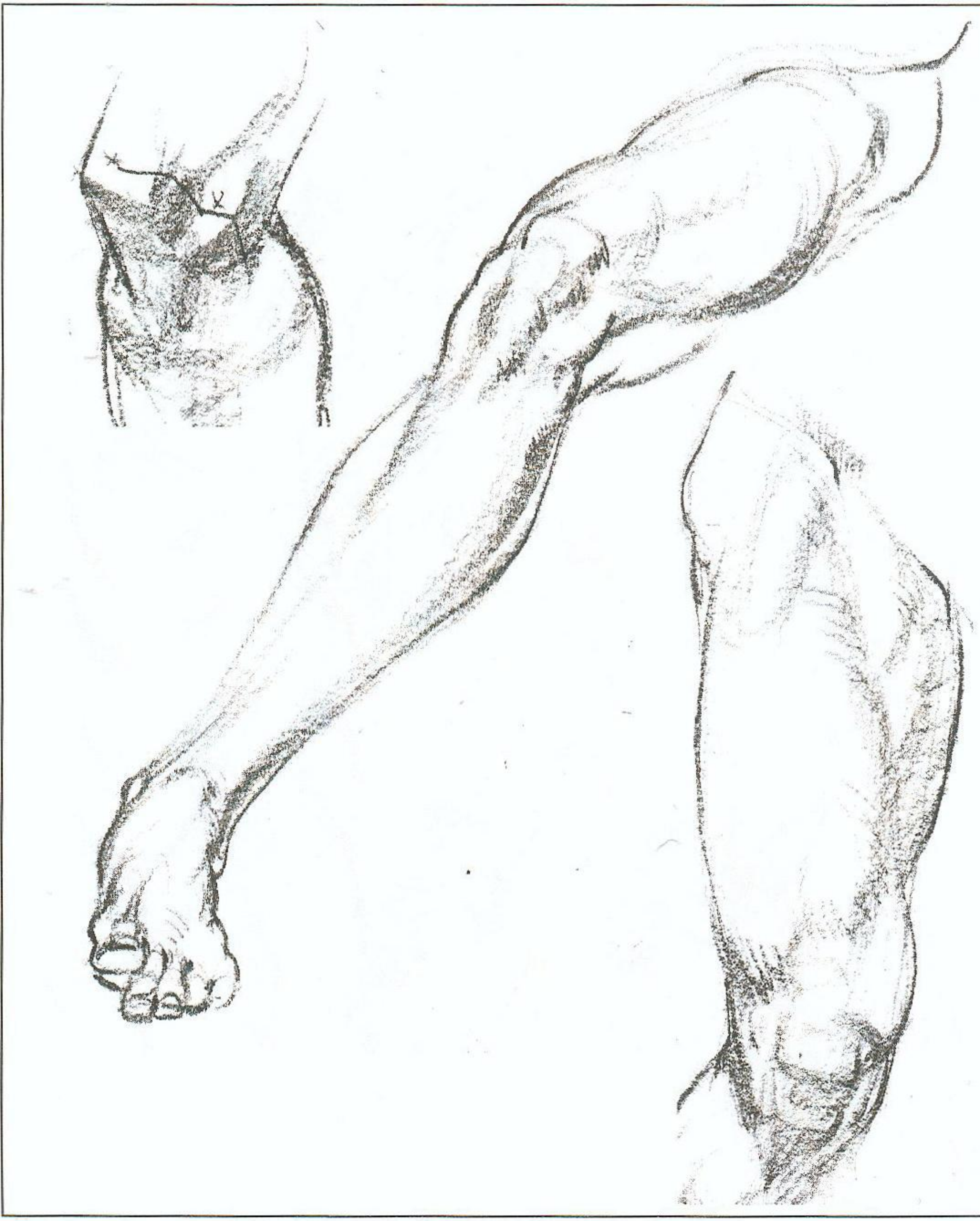
In looking at the connection of the legs to the torso, it is important that you remember that the large muscle in the front, the rectus femoris, does not attach to the iliac crest but goes between the tensor and the sartorius muscles. The "A" shape created by the tensor and sartorius are part of the corner of the box shape used in seeing the pelvis. The rectus femoris, along with the vastus lateralis and vastus medialis, are the main elements of the cylinder of the leg from the front. In the back of the leg, the biceps femoris along with the semimembranosus and semitendinosus are the main elements of the cylinder. Notice how the adductors pull from the pubic arch area and complete fill in the triangle from the pubic arch to the knee.

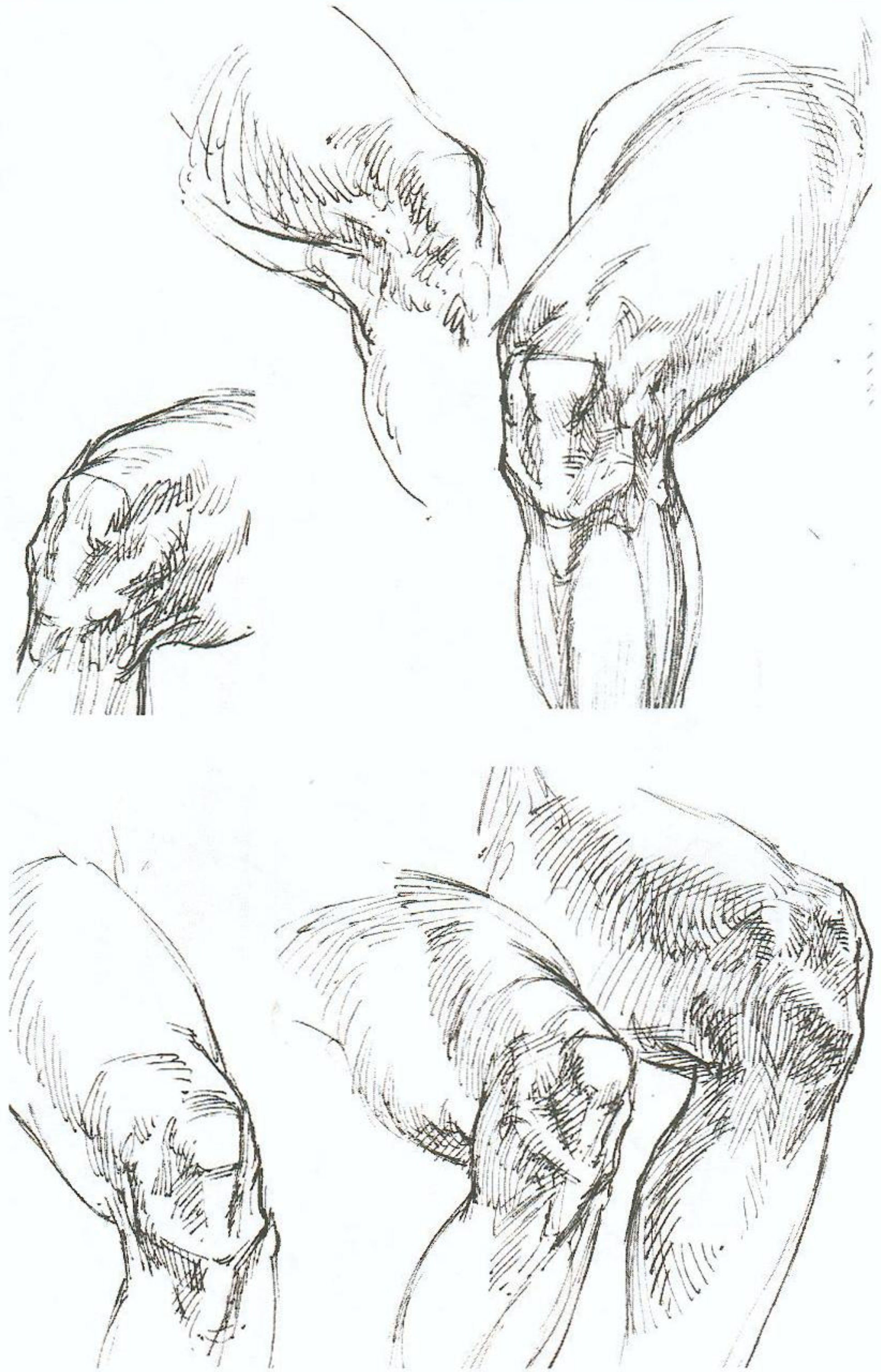


In the back of the knee, the gastrocnemius (the calf muscle) goes inside the tendons of the biceps femoris, semimembranosus, and semitendinosus to create the characteristic squarish shape of this connection. In the front, the corners of the knee are created by the patella in front with the quadriceps tendon and, to the sides, the epicondyles of the femur.

The angle across the calves is high on the outside and low on the inside. However, at the ankle, the outside is low and the inside is high.







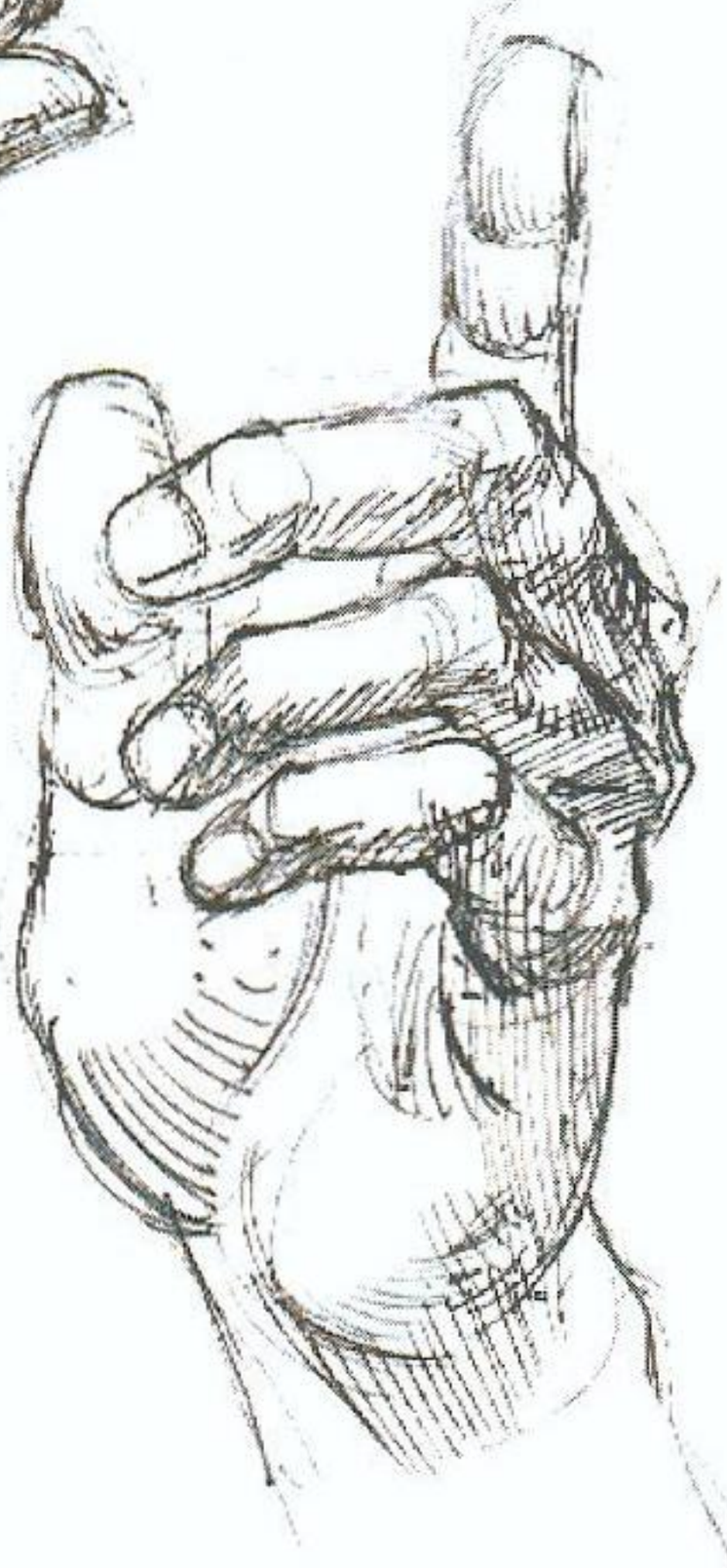
The arc created by the tibia and fibula is a primary line showing the connection of the leg to the foot in front. In the back, the achilles tendon attaching to the calcaneus (the heelbone) is the characteristic look. Try to view the foot as simply as possible in the beginning, focusing on simple volumes.

In looking at the arms, try to see the overall simple masses of the forms as you study the anatomy. It is very easy to get so involved with anatomical detail that you lose sight of the whole.

"It is very easy to get so involved with anatomical detail that you loose sight of the whole."

In drawing the wrist, remember as we discussed in the last chapter, that the radius rotates and the ulna is stationary. The wrist is more simply seen as a box form.

In teaching the drawing of the hand I have found that if you first start by developing your skill at drawing the simple forms of the animators hand and then slowly introduce the real anatomical hand it is easier to control the complexity and develop a method to draw and understand the forms.

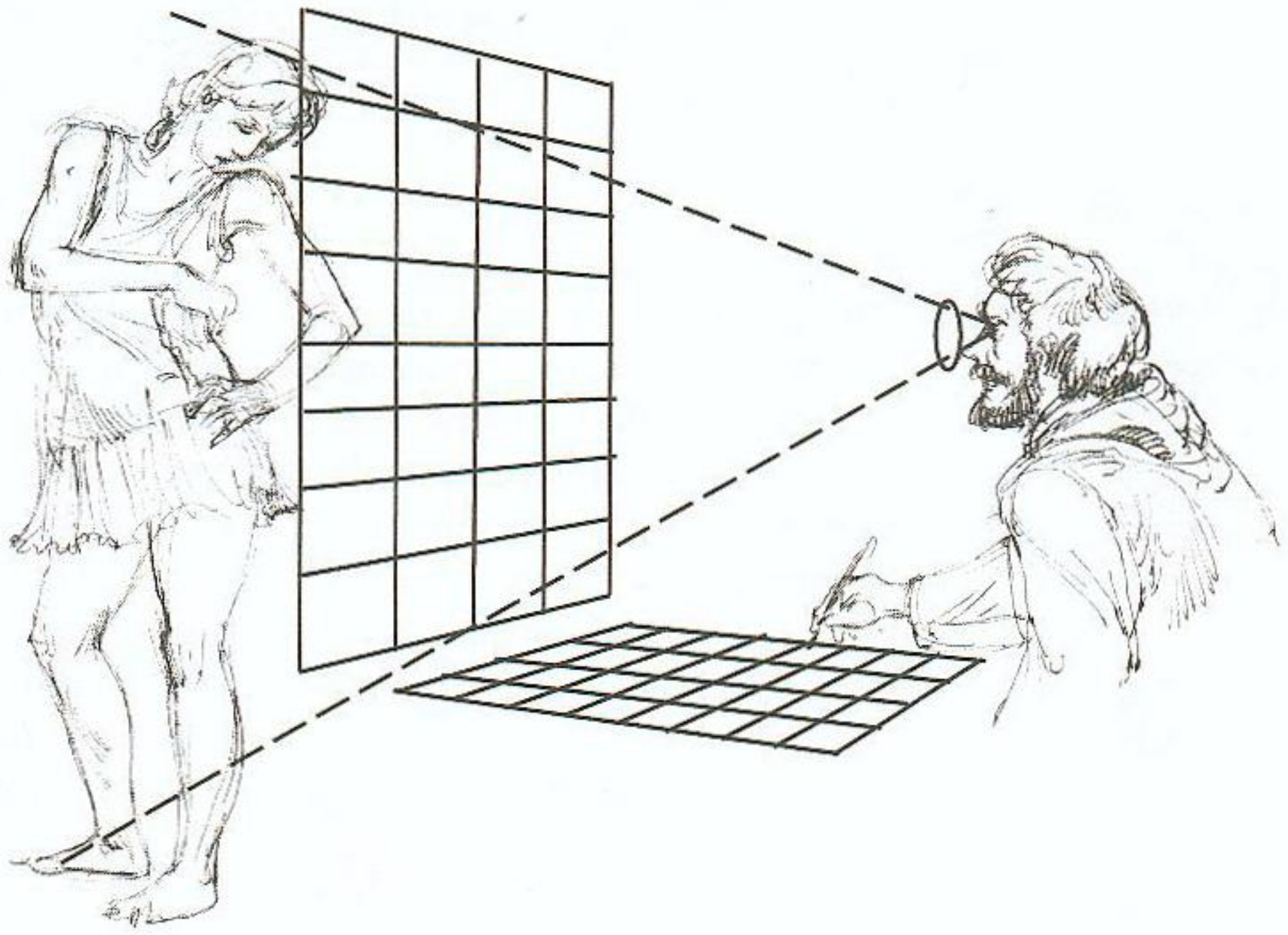


Combining 2D and 3D Observations

The reality of drawing is that we draw on a two dimensional piece of paper; the drawing is not a three dimensional object. Up to this point, our efforts have been almost exclusively concerned with creating that three dimensional illusion on a two dimensional surface. We used a series of tools and procedures that didn't necessarily rely on the model, but on an analytical and constructive approach to drawing the figure. In drawing from the model, i.e. reality rather than from imagination or an ideal, we must develop a set of visual tools to help us make that translation from the real three dimensional world (3D) to the flat two dimensional world (2D) of the paper. In many ways, this is much simpler than what we have been doing. In general, the fundamentals of the approach based on direct observation of the model are the same as the widely used academic method of copying, one of the methods taught in the studios of the artists of the Renaissance. In this lesson we will use this method to assist us in placing the forms that we have learned about in the earlier chapters. (Much of what we are now discussing has been introduced, in part, in earlier chapters.) The drawback of this approach is that you need the model to do the drawing. In practical application, the camera has come into use as a substitute for having a model pose for hours while the artist does his or her drawing.

Before the invention of the camera, both Leonardo Da Vinci (1452 - 1519) and Albrecht Durer (1471 - 1528) and many other artists of that period invented drawing machines to accomplish the same thing. Let us look at Da Vinci's and Durer's machines as a basis for understanding the approach. Both artists created essentially the same machine with slight variations. The basic elements were a frame with wires stretched over it dividing it into equal units, or a piece of glass with lines drawn on it sitting upright on a table and a piece of paper having the same equal divisions on it as the screen. The artist would look through the screen from a fixed viewpoint, either a peep hole or some form of brace, to keep the head from moving. The artist would then copy what he saw in each square onto the corresponding square on the paper. The great anatomist, Bernard Siegfried Albinus (1697-1770), in 1727 started his great work on human anatomy which was to take him 20 years. The following quote is from "Albinus On Anatomy", by Robert Beverly Hale and Terence Coyle published by Dover *Books 1988 (reprinted by permission)*:

"Albinus overcame the problem of obtaining correct proportions between the parts of the body in the drawings of his artist by using grids or nets made of cords and divided into squares. These were placed at selected intervals between the artist and the skeleton. One grid was placed almost in contact with the skeleton by which the artist could draw from a distance of up to forty feet for the drawing of detail, a second grid with the squares greatly reduced in size, was placed four feet in front of the first grid. The artist would look through the grid and place himself so that the cords of the two grids lined up with one another on his view of the skeleton, and could check his accuracy by means of these lines and their intersections."

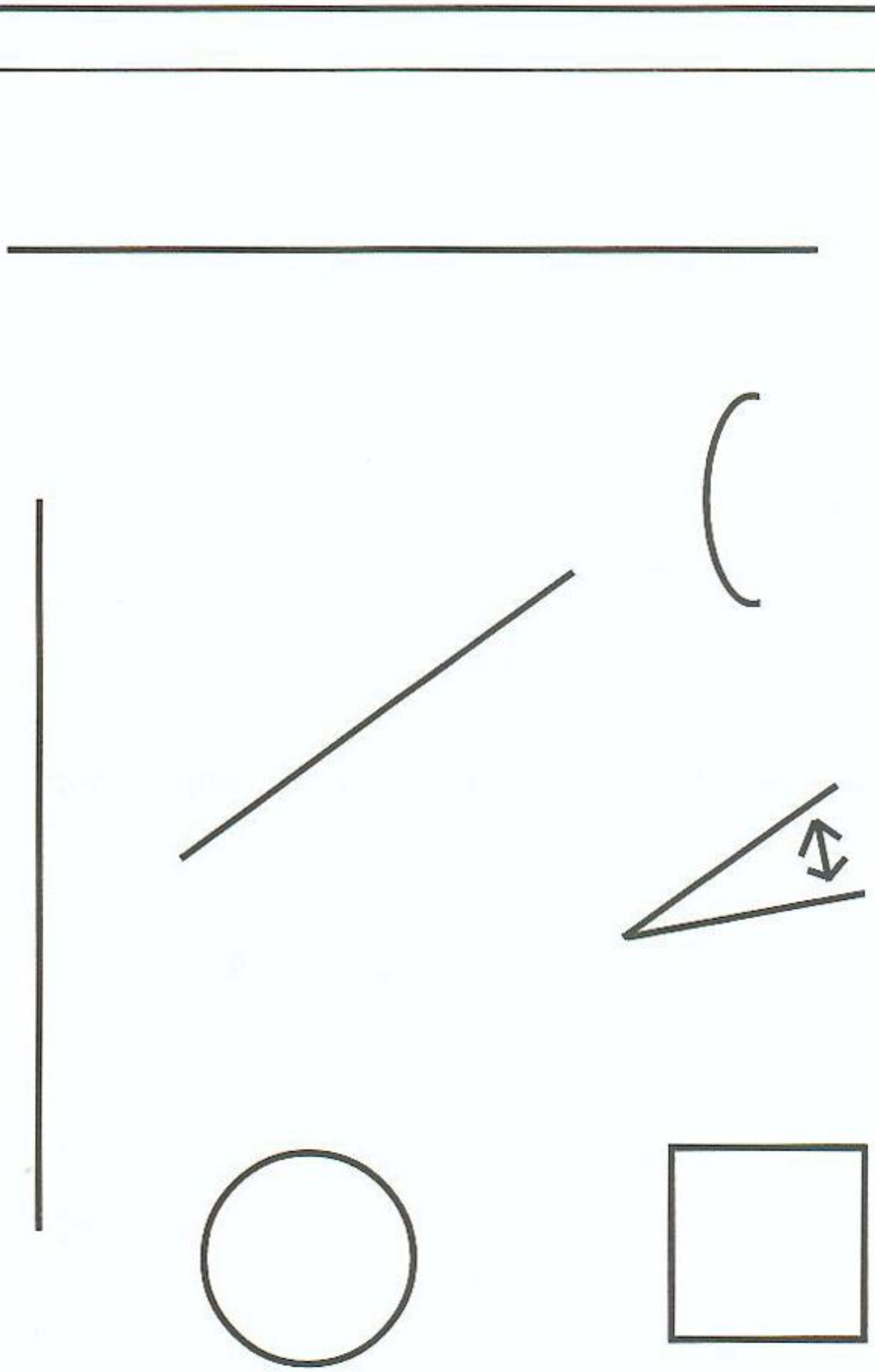


This is essentially identical to an artist today taking a photograph, squaring it off, and transferring it to a canvas. The usefulness of the approach is in its mechanical nature. We incorporate basic elements of this approach any time we draw from nature. In the previous lessons I have been incorporating the use of many of the basics, without making specific mention of the procedure as a whole.

The basic elements of the grid are vertical and horizontal lines, plus angles and measurements. These are the tools of this approach. Spheres, circles, box /squares, along with arcs are additional aids in seeing the placement of forms.

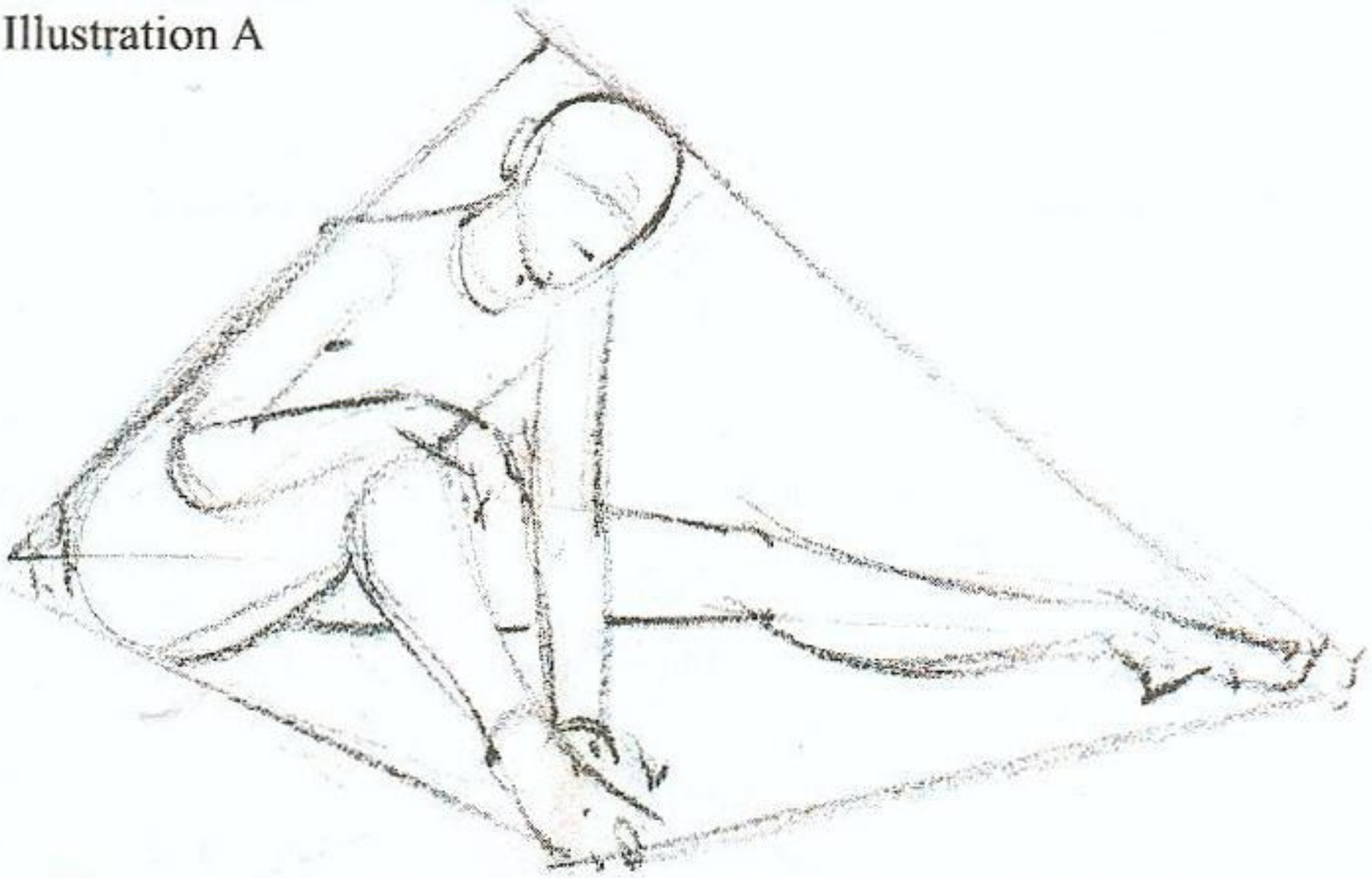
A key element in academy training is the length of the pose. Since a prime requisite for doing this kind of drawing is very careful observation, the poses were, by necessity, very long. The student normally would start his or her training by first learning to draw from plaster casts, as is still done in many parts of the world. A pose, using the model, could last for a day, several days, or a week. An hour pose was considered a quick one, used for learning how to start a drawing.

In this lesson, as in the previous lessons, the drawing is primarily done in line. In a true academic approach, the use of tone would be a major part of the drawing. Each step being a gradual build-up of values with careful consideration of the direction of the light falling upon the forms. In the following three lessons we will be discussing tone, but in a more constructional and analytical approach. In this lesson I am using the academic approach as a way of carefully translating the three dimensional forms of the model, as we have developed them, to the two dimensional surface of the paper as accurately as I can.



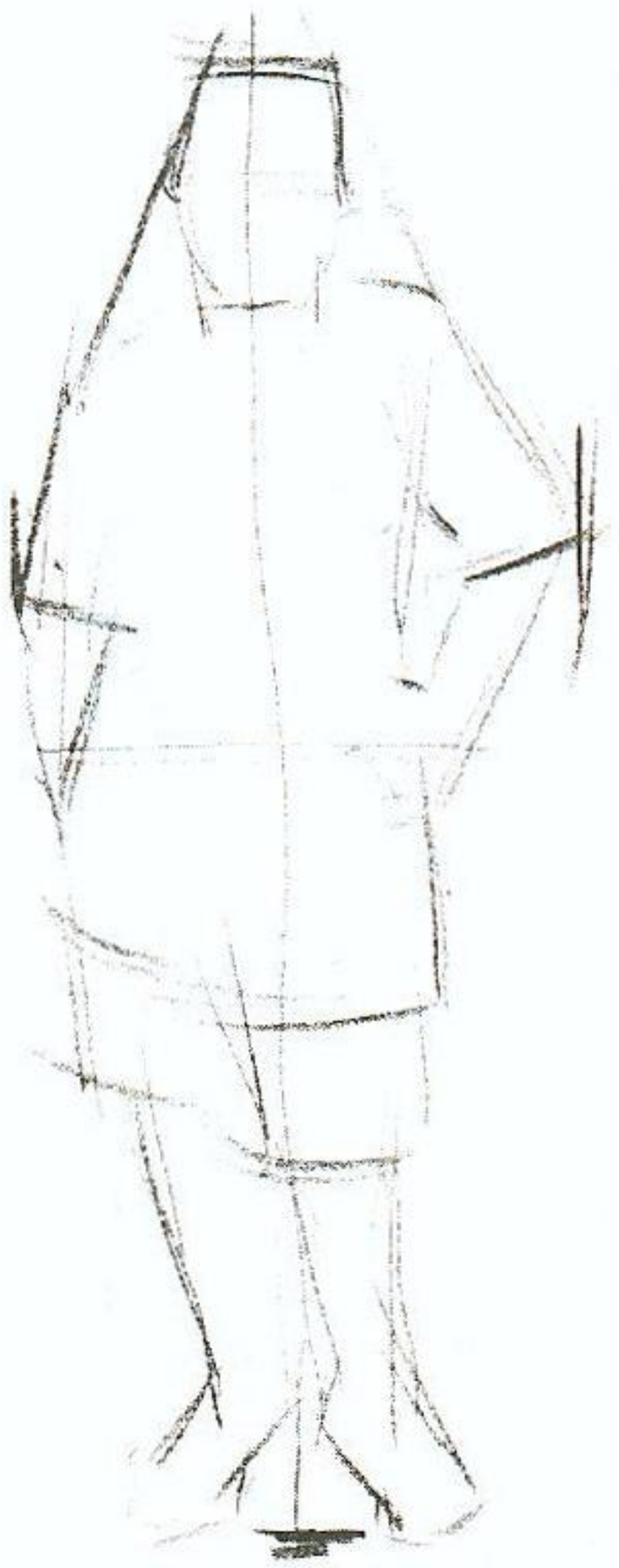
"As in earlier lessons, the most important point is to get the total."

Illustration A



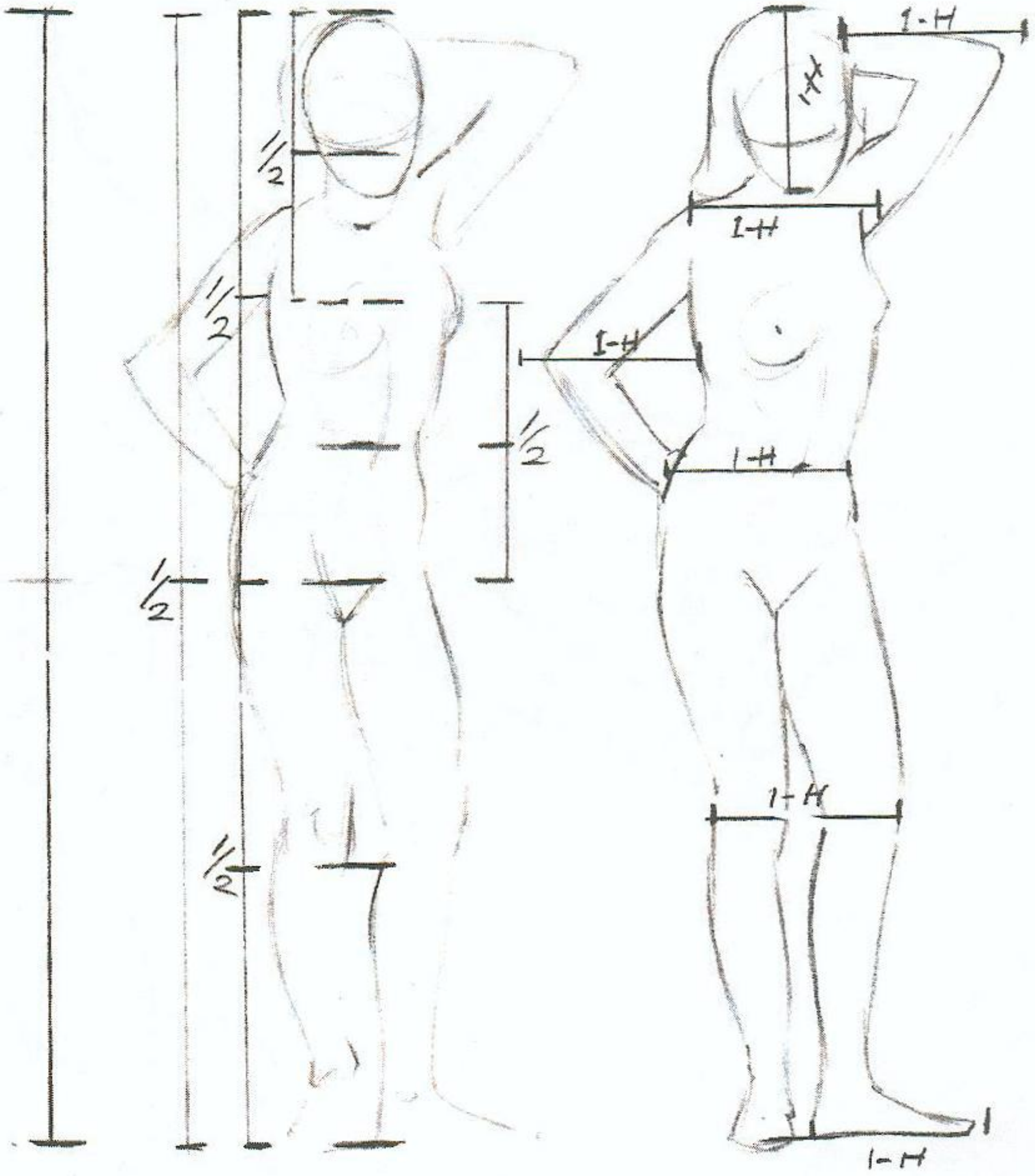
Turn your paper to fit the drawings proportions.

Illustration No. B



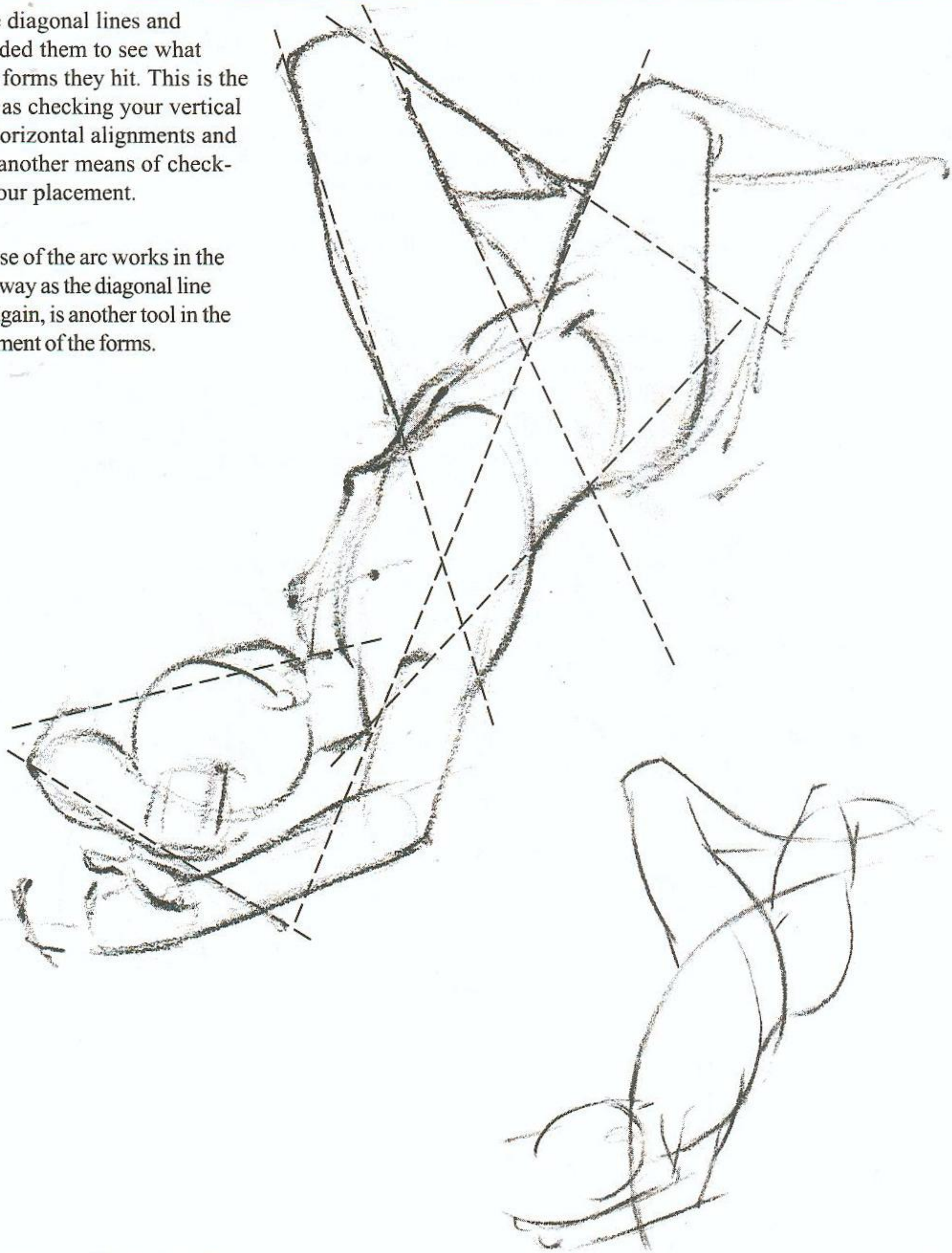
We start first by establishing where we want to place the figure on the paper. To do this, we must establish the limits of the model and where these are to be placed on the paper. In "Illustration A," you will notice that the seated figure has a horizontal axis and the standing figure, "Illustration B," has a longer vertical axis. This is not always quite so obvious, so it is important that you carefully measure to see which lines are longer and place the figures on your paper accordingly. Notice that I have used a series of straight lines to "block in" the rough placement of the figure. Straight lines are essentially easier to see and make judgments with compared to irregular lines. You "block in" the figure by "eye-balling" it, in other words, by making simple unassisted visual judgments prior to actually measuring. As you develop your visual skills, the simple act of making a mental notation is usually sufficient. Now we have reached the point where we start to more accurately place the various elements of the drawing.

Very carefully using the head as a basic measuring unit, find the center of the drawing both vertically and horizontally on both the model and the paper. At the end of this chapter is a simple explanation of how to measure if you are not familiar with this procedure. It is essential that you be very careful in doing this because everything you do from this point on could potentially reflect further errors. It is a good idea to take a separate piece of paper or a ruler to help make sure that, in fact, you have actually marked the center on your paper. From this point on, the process is essentially one of creating a grid by breaking each section down, measuring, and progressively making smaller units. It is important that you pay as much attention to the width of the forms as you do to the length.



Make diagonal lines and extended them to see what other forms they hit. This is the same as checking your vertical and horizontal alignments and adds another means of checking your placement.

The use of the arc works in the same way as the diagonal line and, again, is another tool in the placement of the forms.

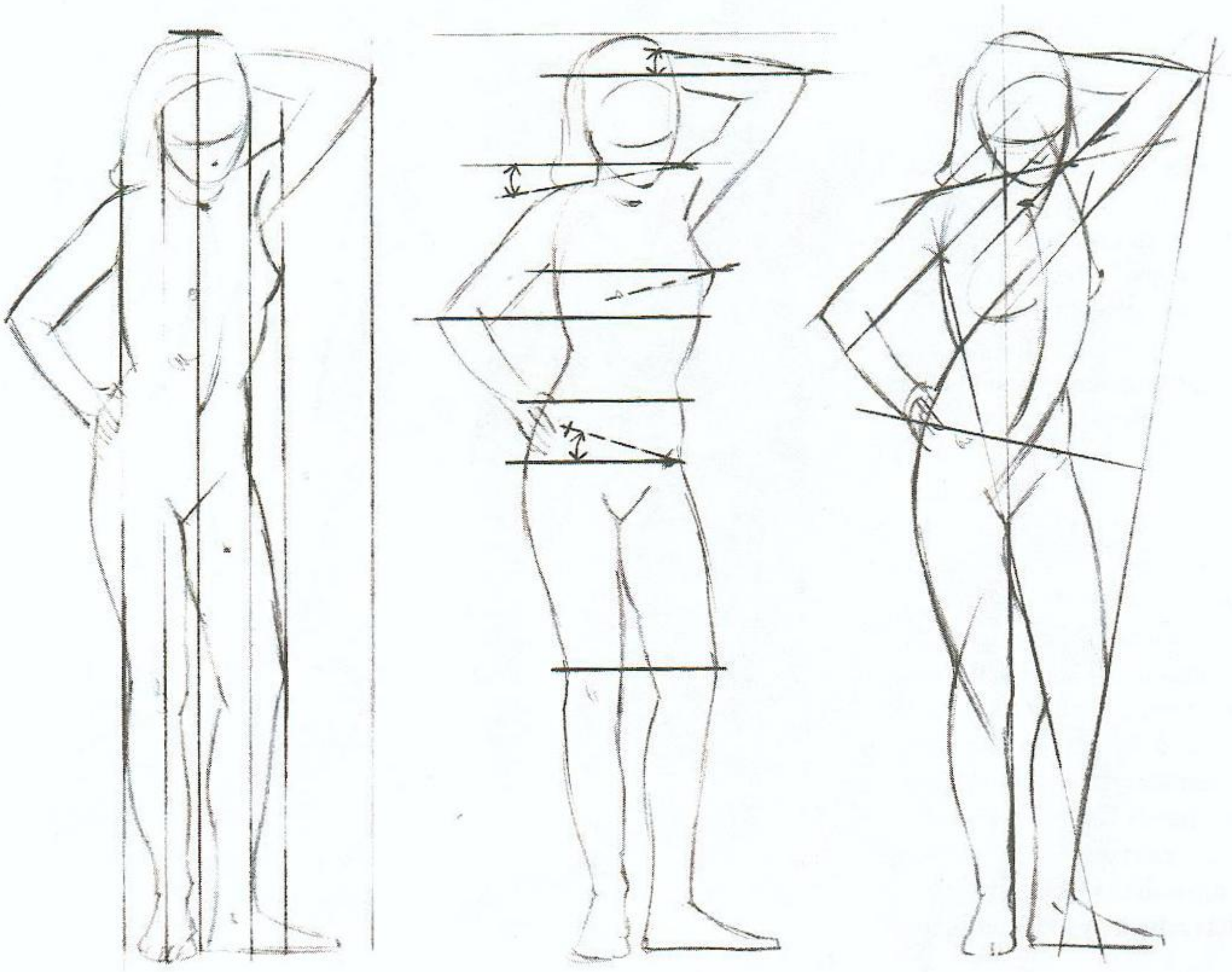


Below, you will see a visual summary showing the basic tools of the approach we have discussed so far.

The accuracy of your drawing will depend on how careful you are. This approach has very little to do with talent, relying primarily on careful observation and patience.

Once you have all of the major elements in place you can start to break the larger units into smaller units. The limitation of this approach is only in how small a unit you are willing to

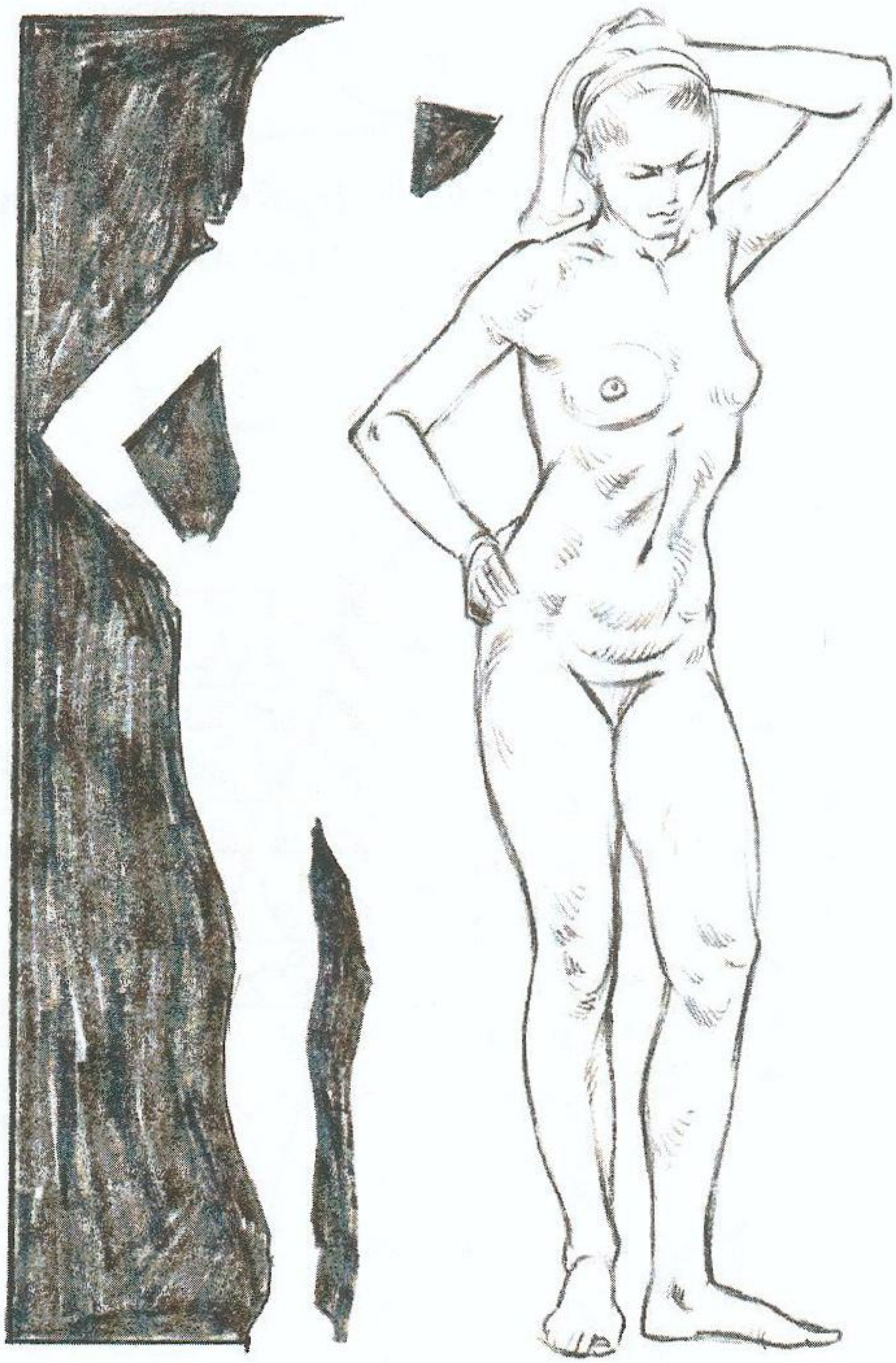
"The accuracy of your drawing will depend on how careful you are."



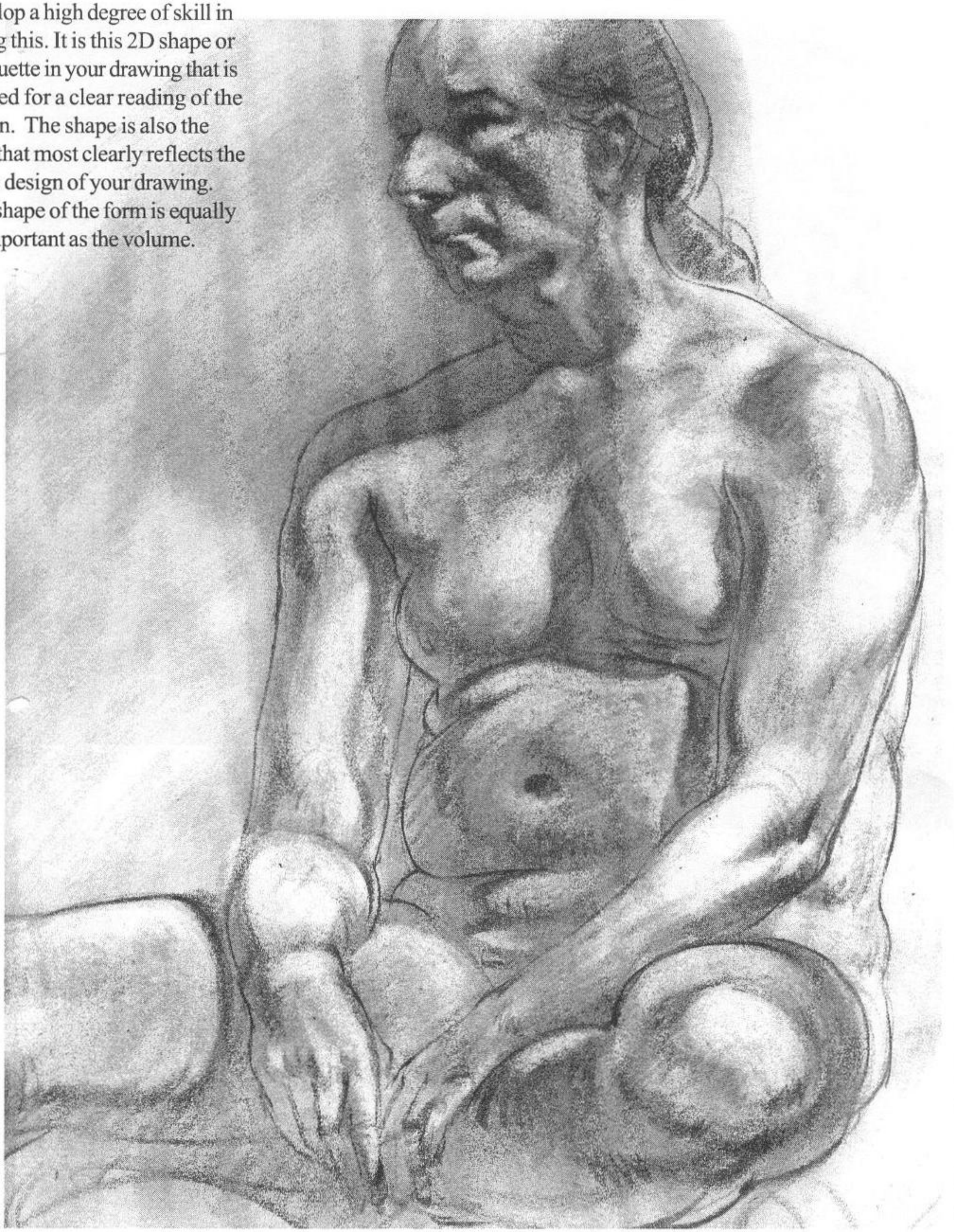
create. I have seen artists who work this way carry it down to the finest highlight in the eye. This approach is, primarily, one of surveying and putting everything in its proper place.

The value in this form of exercise is developing the ability to reduce your subject to two dimensional observations.

Let's look at some elements related to this approach. Since you are reducing the subject of your observation to 2D elements, the openings between forms and the space around the forms become equally important. These are called negative shapes. You could, in effect, draw your subject by drawing the space around it, i.e. the boundary between the positive and negative space. The 2D contour of either the positive or negative space gives us the same information. Some basic art school exercises to develop this skill in observation include cutting out the shapes with a pair of scissors the way children do with a silhouette drawing in grade school, copying photographs upside down, drawing with our left hand to make you look more carefully, and drawing a specific contour without looking at the paper. The point of all of these is to teach you to see 2D relationships while looking at a 3D object. It is extremely important that you



develop a high degree of skill in doing this. It is this 2D shape or silhouette in your drawing that is needed for a clear reading of the action. The shape is also the area that most clearly reflects the basic design of your drawing. The shape of the form is equally as important as the volume.

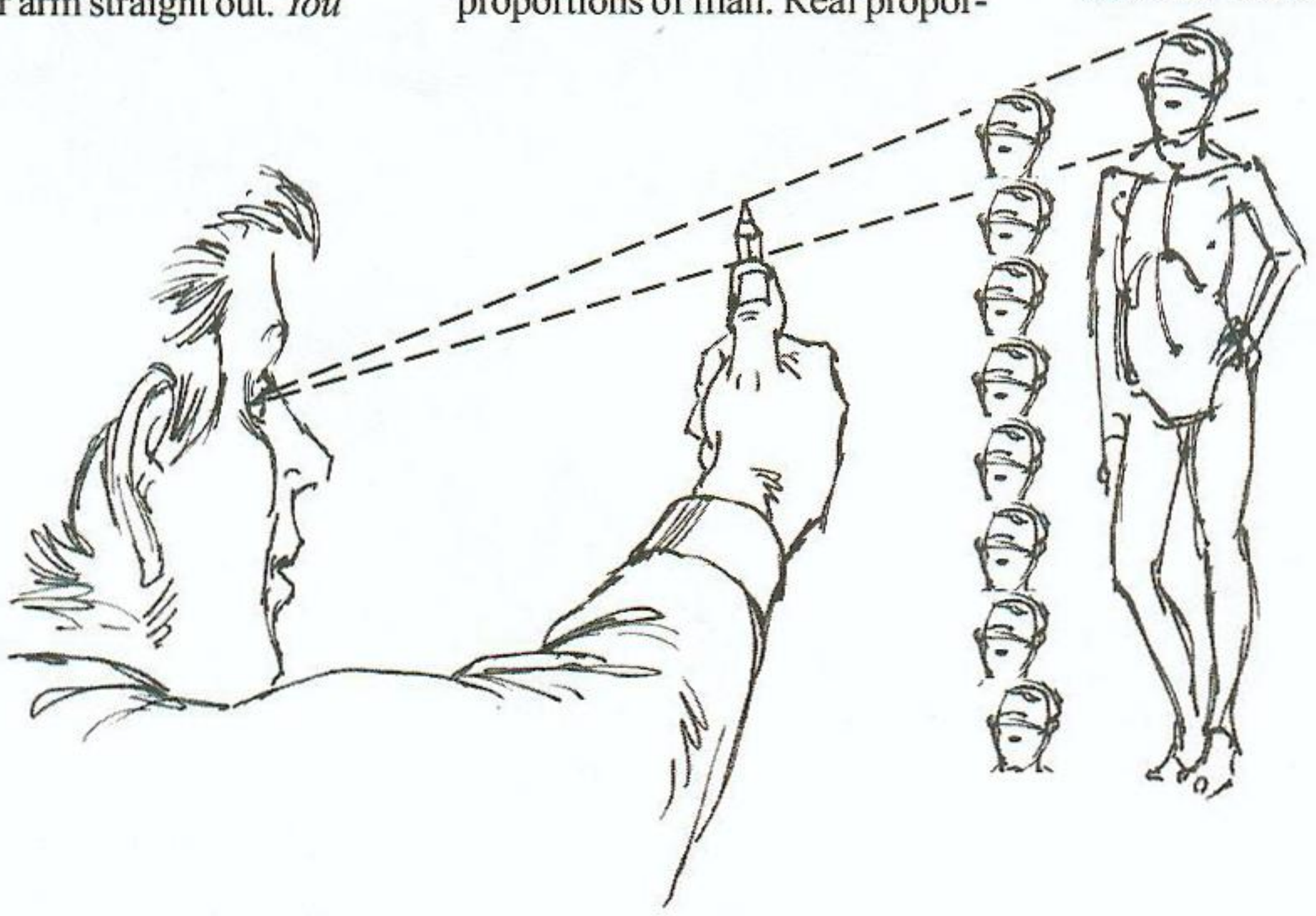


Measuring and Proportions

In measuring, unlike most drawing tools we have discussed, there are some basic rules. First, measuring is not difficult but you must be consistent and careful or it will work against you. The standard unit of measurement is normally the size of the head, although it could be any convenient unit that you wish to use. The width of the head is another popular basic unit of measurement used by many artists. We are not talking about inches or centimeters but relative sizes. Let us use the head size as an example.

To find the center of the figure, or any other point on the figure, hold your arm straight out. *You must keep your arm straight. Any variation in distance between your hand and eye will give you a false size relationship.* Study the illustration below. The top of your pencil should be at the top of the head, the tip of your thumb at the bottom of the head. You can now move your arm down, turn it sideways, diagonally, placing it visually anywhere you wish on the figure to establish any point or size relationship in comparison to the size of the head, i.e. the navel three heads down, or the shoulders one head apart in this particular pose.

Proportions have been an integral part of the artist's education for thousands of years: the study of human proportion has taken two distinct directions: the real or normal proportions and the ideal proportions of man. Real proportions are, of course, average proportions and should be taken as such. As individuals, we all exhibit slight variations on this norm, but, in general, we all do fall fairly close to the average. This average is a good starting point for the student to work from. The proportions that I have presented here are a seven and three quarters head high male figure and a seven and a half head high female figure. These are in line with the seven and a half heads of Richter, the famous French anatomist, and the idealized eight heads of Michelangelo, the famous Italian Renaissance artist. Many artists have used greater extremes in both directions. These extremes, or ideals of proportion, are used for expressive purposes. The three head high figures in animation and cartoons creates children's cuteness . Some of the

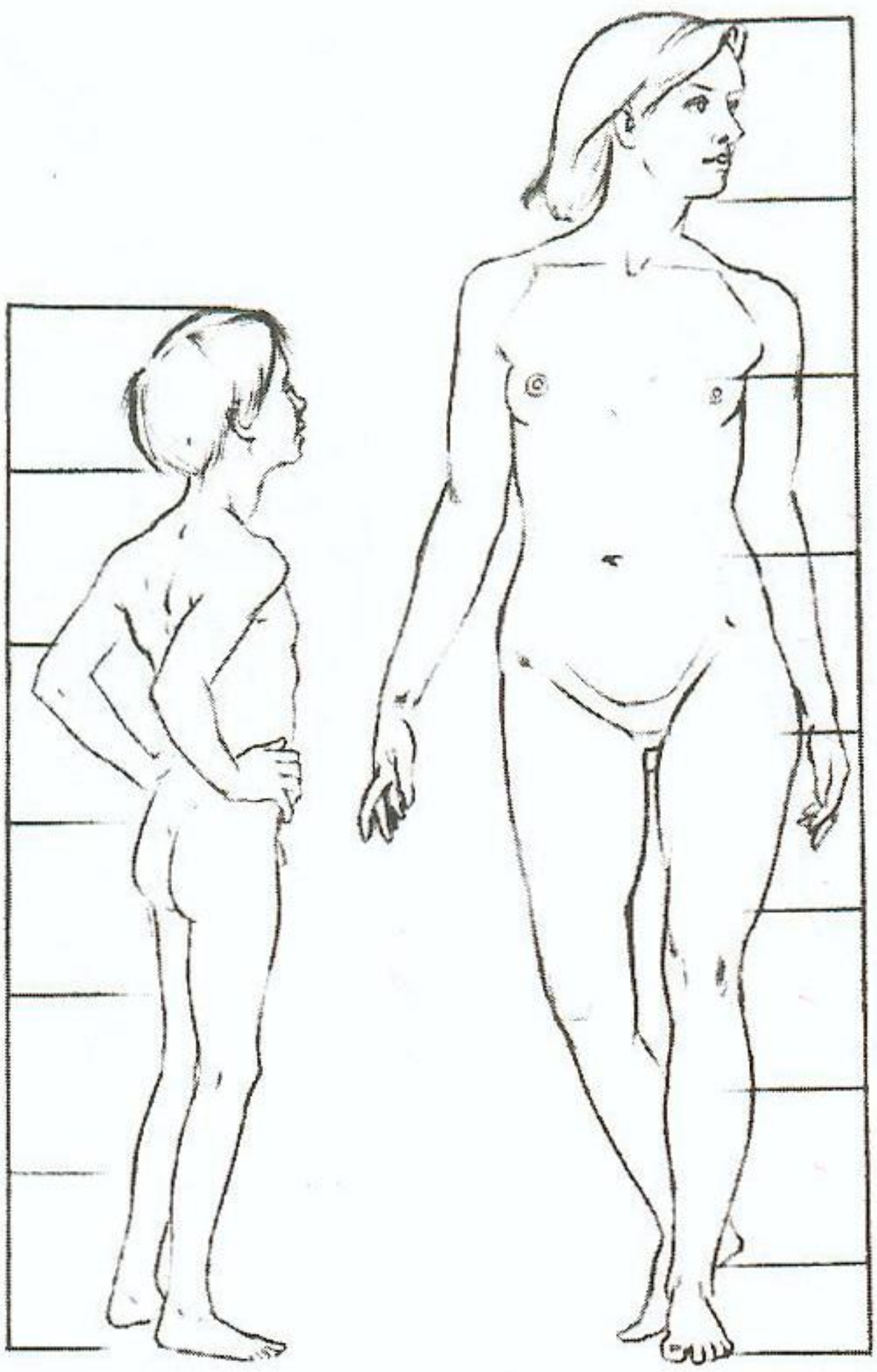


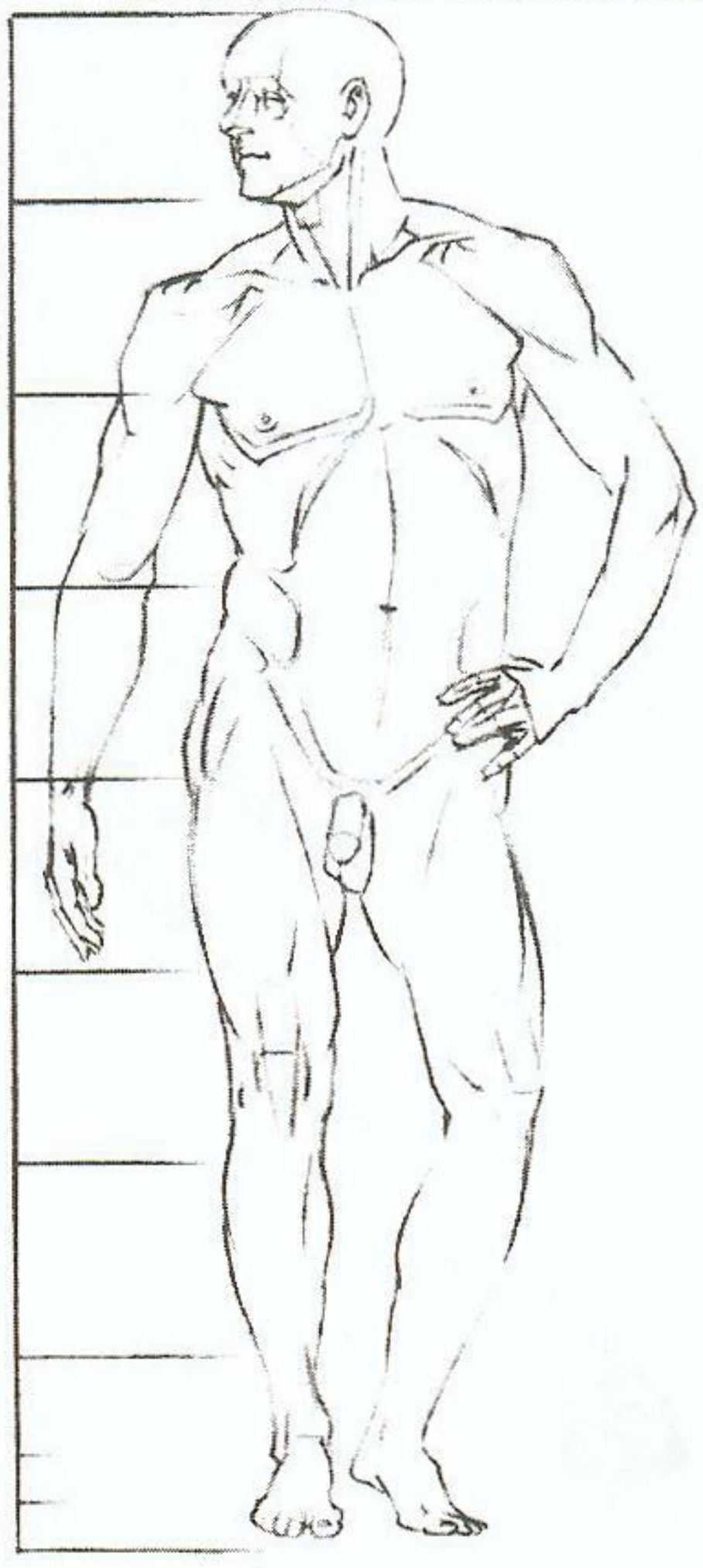
Mannerist artists of the past, contemporary fashion figures, and super heroes of the comics create ten high figures.

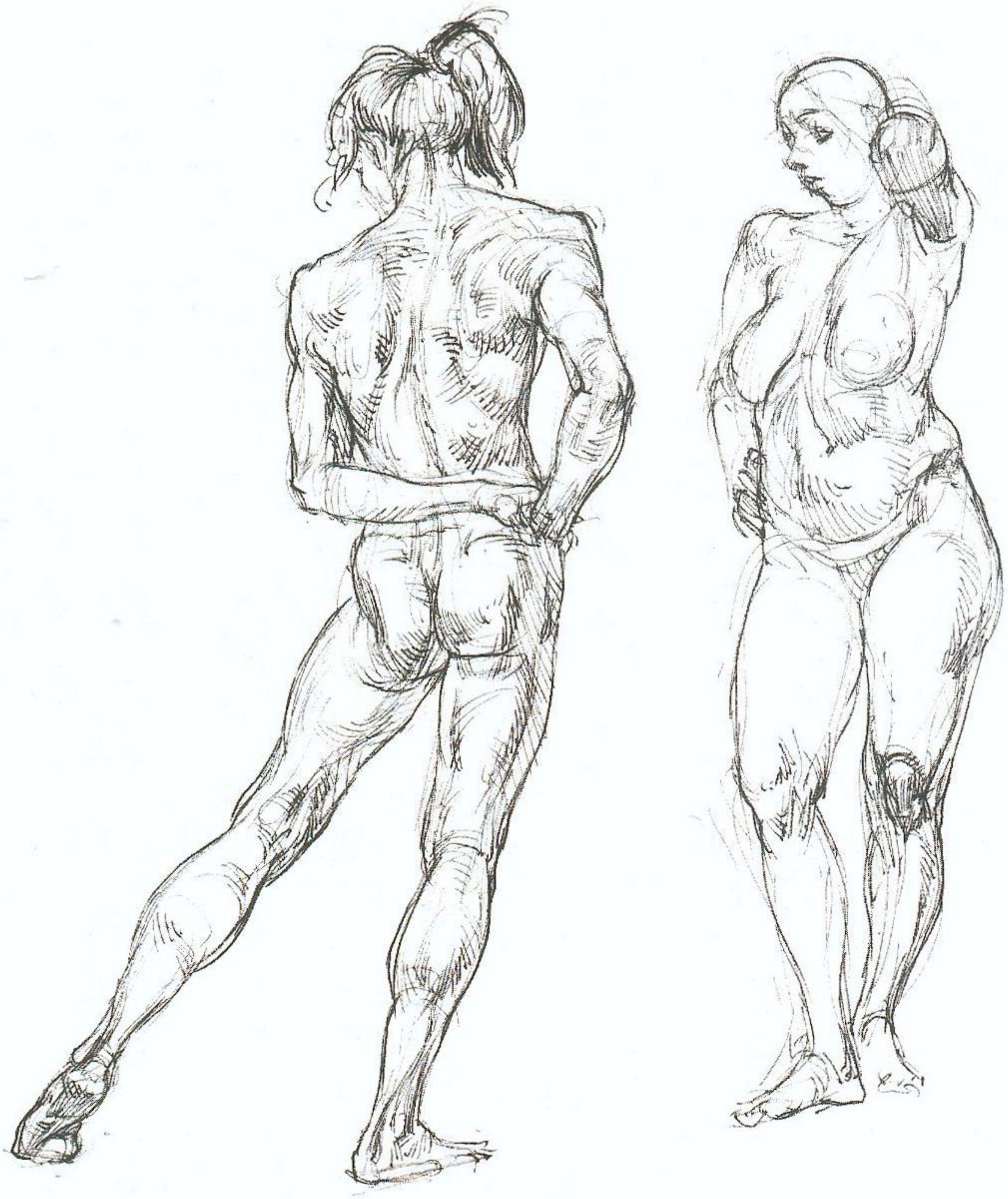
First, get a sense of the real so that you do not make accidental proportional statements that contradict your intentions. Then use proportions to make your statement.

Useful comparative proportions

hand	=	face
hand	=	clavicle
hand	=	front of face to back or base of skull
hand	=	scapula
hand	=	sternum without point
head	=	distance between pelvis at front
head	=	triangle where clavicles cross rib cage
2 heads	=	top of head to nipples
2 heads	=	pit of neck to tip of pelvis
2 heads	=	width at outside of shoulders
2 heads	=	trochanter to joint of knee
3 heads	=	top of head to navel
4 heads	=	top of head to pubic arch
4 heads	=	end of trochanter to bottom of feet



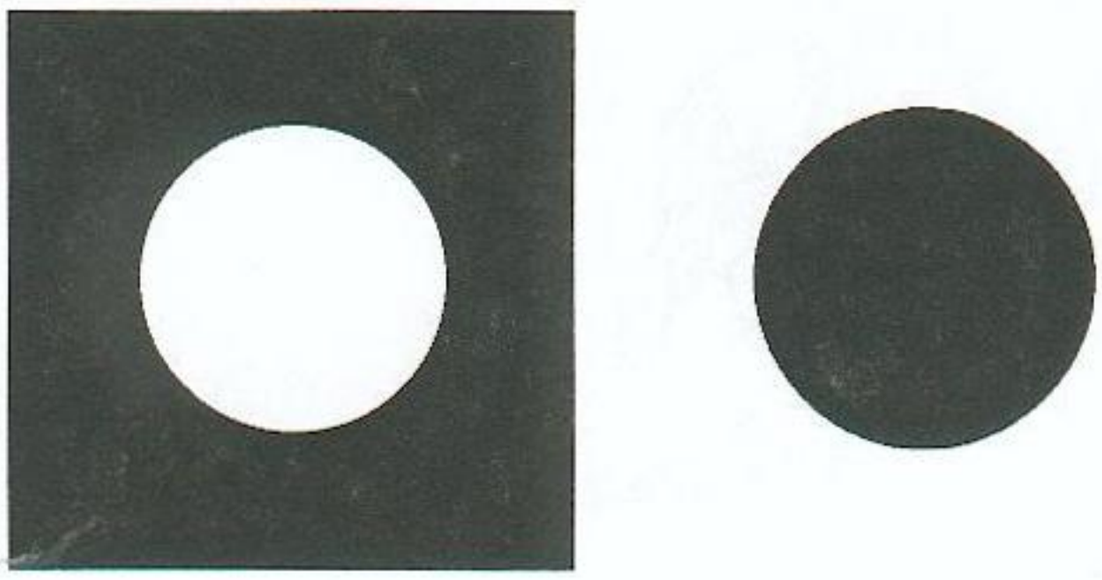




Indirect Lighting and Modeling Tone

The first half of this manual has been primarily concerned with creating form using line, emphasizing the need to visualize the whole form and to draw across the surface of the form to show its volume. In learning to see spheres, boxes, and cylinders, we focused on seeing the corners of forms and used these basic visual tools to help us see the orientation of the forms in space and to draw them. In reality, we see things primarily in tone, not line. I have used tone in many of my examples to define the forms without explaining the usage. In this chapter, and the next two, we will discuss three distinct methods of using tone. The three approaches, which are indirect lighting, direct lighting, and atmospheric perspective are distinct but generally used in various degrees together. For the purpose of teaching, I am focusing on each one as a separate and distinct approach. As you will see, they can be used as separate methods though they are generally used together.

Illustration A



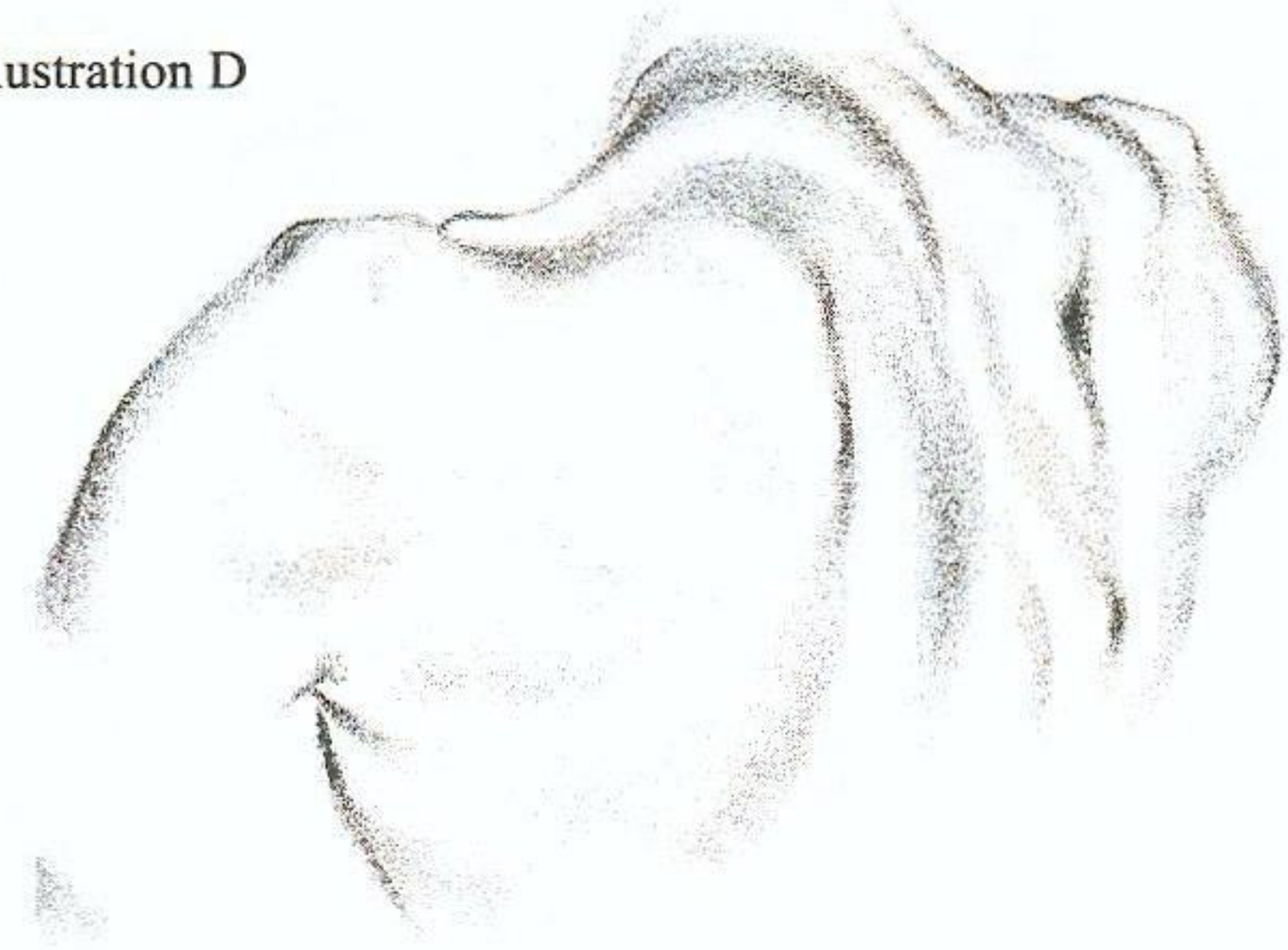
The clarity of an edge of a form is defined by what is behind it. The greater the contrast the clearer the contour. A solid black object against a white background can appear quite flat without a light source defining the interior corners and the parts that come forward (see Illustration A). To create a strong sense of volume it is necessary to emphasize these internal corners that come forward and subordinate those that recede back in space .

Illustration B

Illustration C

Illustration B, C, and D demonstrate the fundamental elements of the indirect lighting approach. The part that is facing you is the lightest and the form becomes darker as it turns away from you. Notice that I said, "turns away from you." The important point here is the angle of the form in relationship to you. In Illustration C, the outside contour has also been softened to make it recede even more.

Illustration D

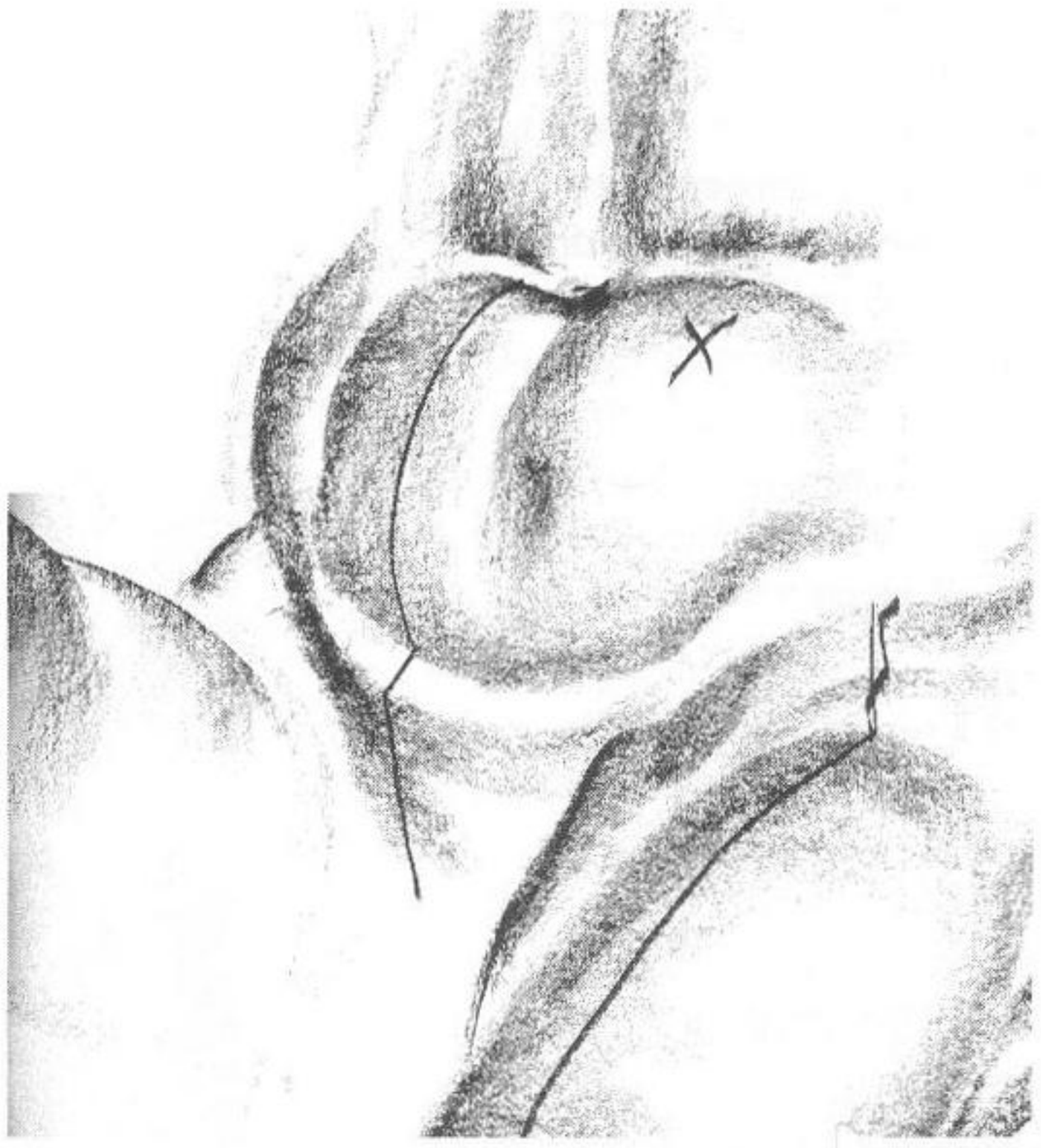


"What faces you is in light; what turns away from you is in tone."

What faces you is in light; what turns away from you is in tone. Another way of thinking about this is to imagine yourself as the source of light.

Illustration A gives an example of this basic principle. Remember, it is the angle that a particular surface plane faces that determines its value (degree of light and dark), not how far away from you it is.

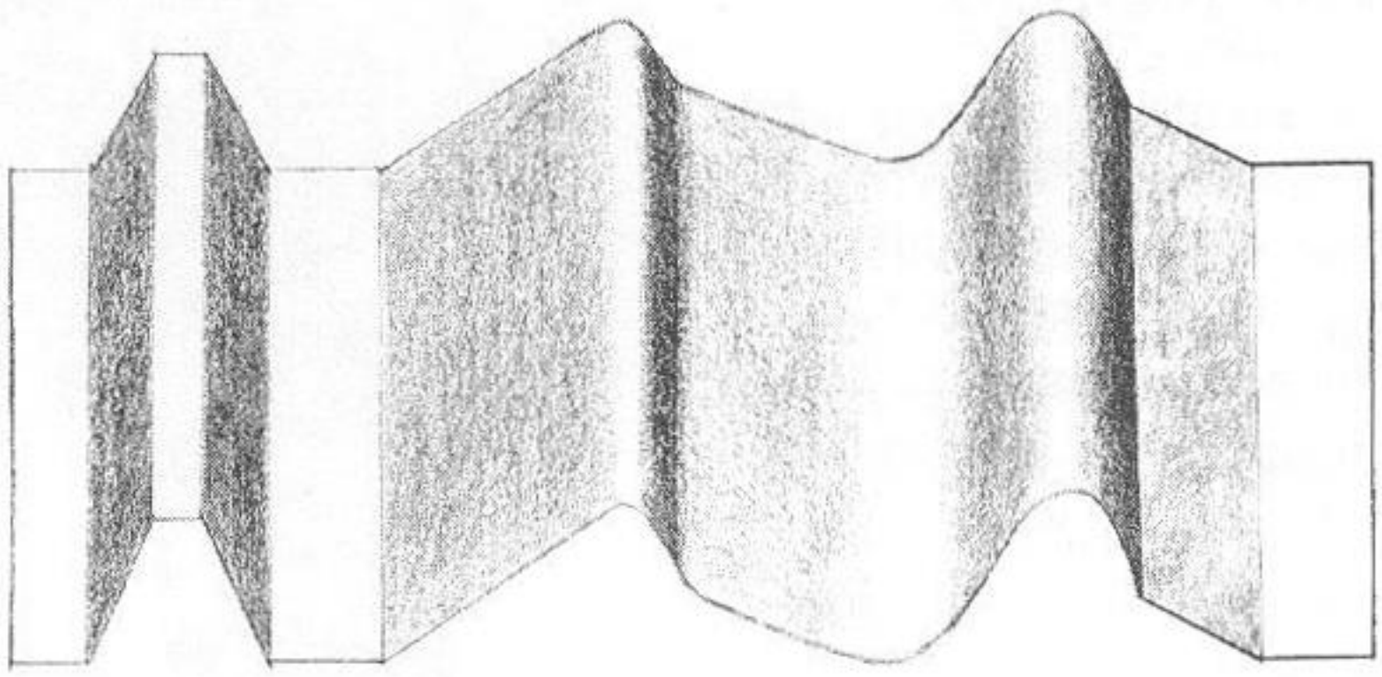
Illustration A



This use of tone, or value, is usually referred to as a "modeling tone." We model the form using the tone to define itself in space in the same way a sculptor does. Since our main concern is to describe form, you must look at the basic procedure as a tool rather than a rule. We use the tone to push the sides back on a form.

Let us modify the basic concept now to read: "What faces you, relatively, is in light; what turns away from you is in tone." The word "relatively" is very important. Study Illustration B. This is actually an optical illusion. The forms can be seen going in or coming out. The parts of the forms that are in light do not actually face you, but, relative to the forms that are turned more away, they do. Notice that there is no difference between those forms that are close to you and those farther away. Of course, in reality, there is, but for the moment concern yourself only with the angle that the plane of the form is facing.

Illustration B



Before we go any further, you need to develop some basic skills in working with values. One of the most fundamental skills that you must develop as an artist is to be able to recognize and put down values with control. The illustration gives you examples of a few basic exercises that you should do. As a working artist, with over forty years of experience, I still feel it necessary, at times, to do variations on these exercises today.

It is important that you develop the skill in being able to put down a flat and even value. We are interested in seeing the value, not the technique.

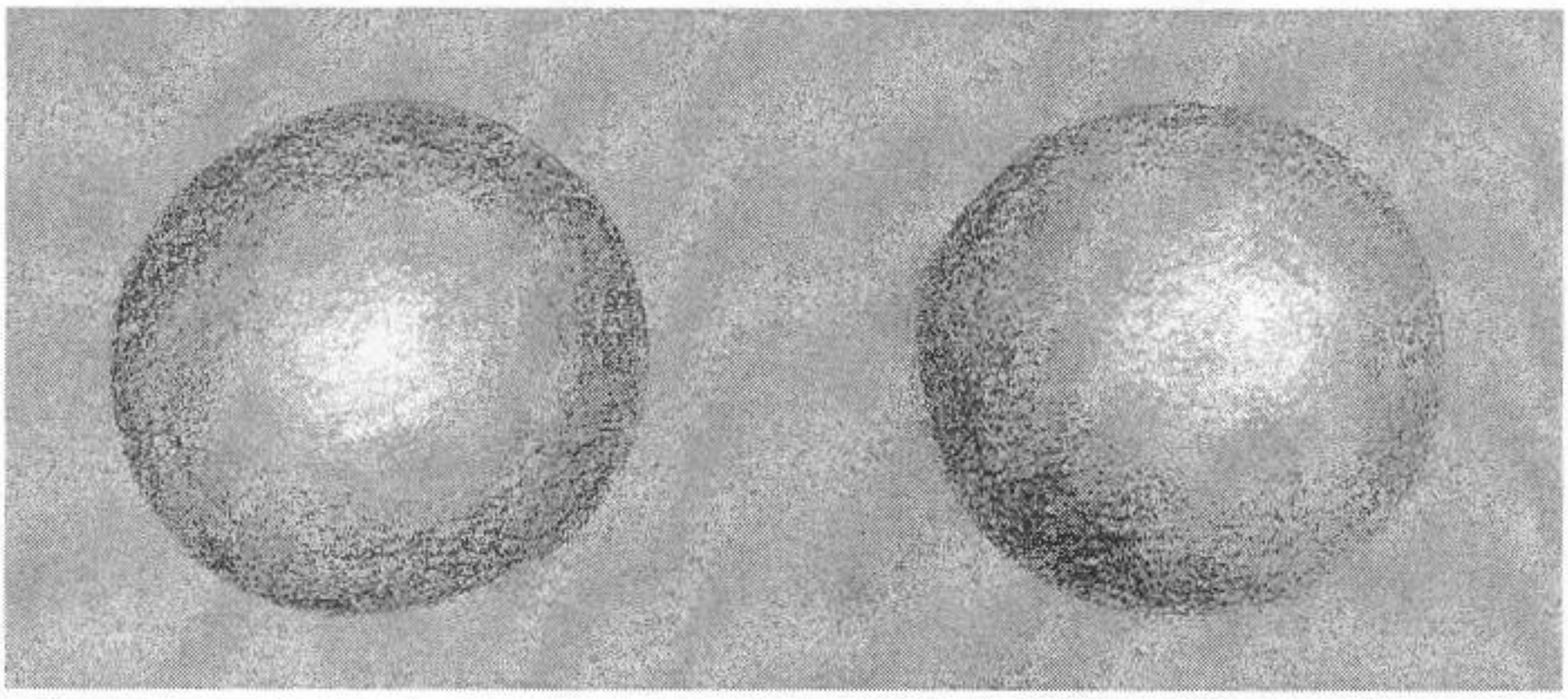
"We are interested in seeing the value, not the technique."

Every irregularity or change in tone communicates a change in the form. Do not draw dark lines between values. A line between values will distort the relationship of one value to another and make it difficult to see their relationships. Each degree, or step, of contrast between values should be equal in contrast. Do not underestimate the difficulty or importance of this exercise. It could take hours to do it right.

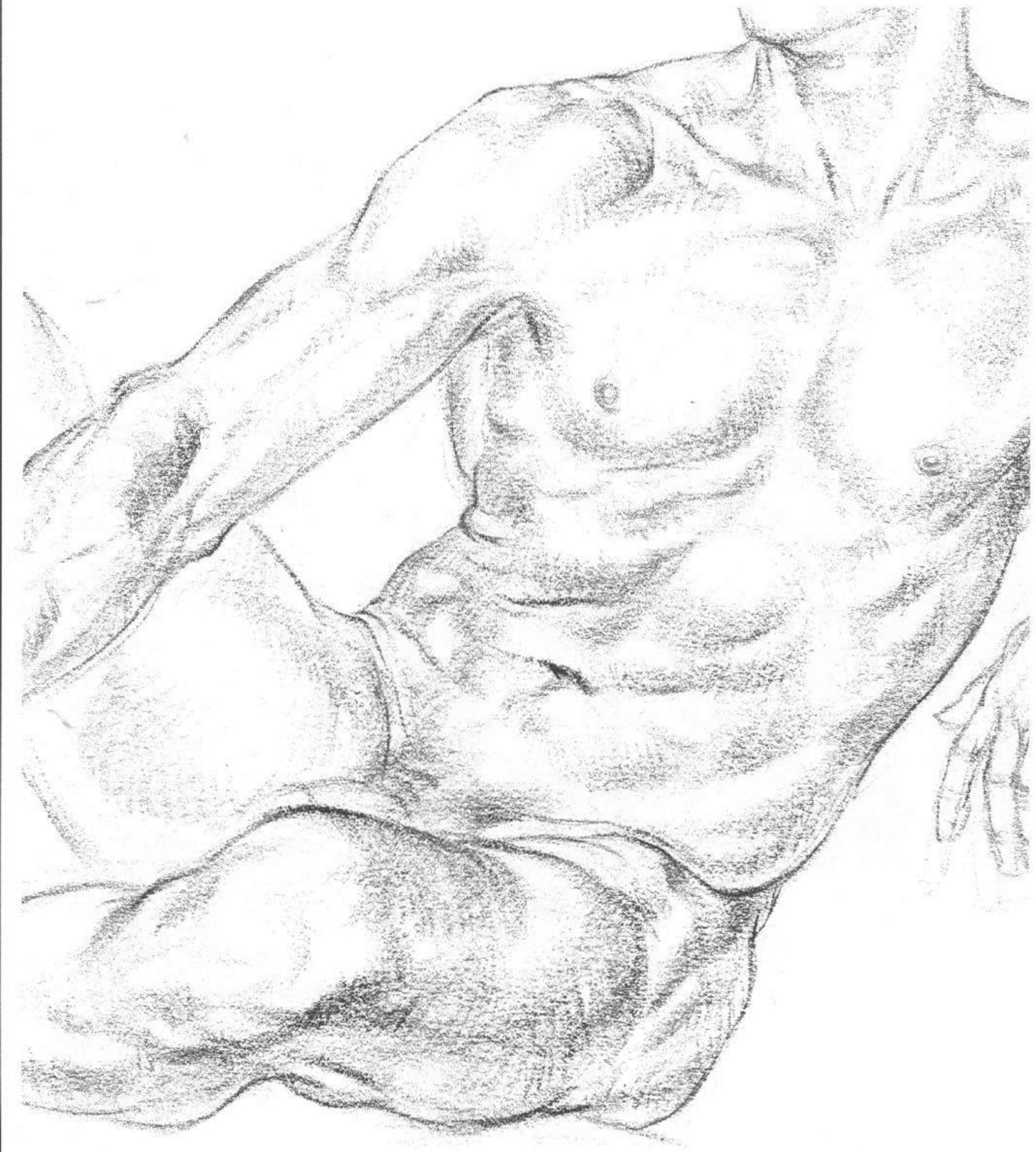
Practice drawing simple forms from imagination. Redraw some of the forms created in Chapters two and three, using tone, but no line. Remember, we are using a specific approach to modeling form. We are not copying the patterns of light and dark that we see on the model. We are analyzing the forms of the model but are not necessarily using the tones that we see on the model. As I have said repeatedly, "don't copy the model; analyze."

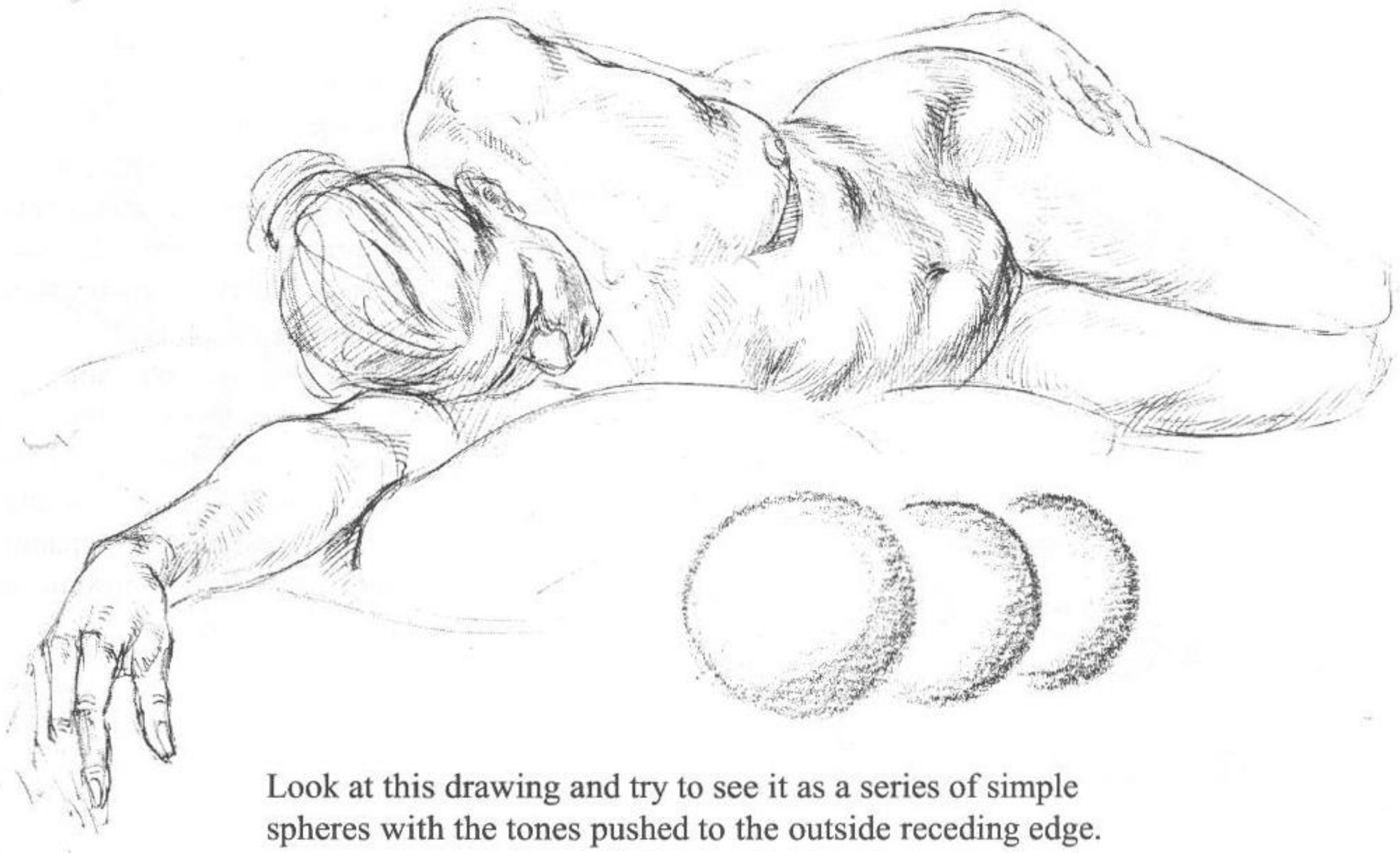
"Don't copy the model; analyze."

After you have become comfortable using the modeling tone, as we have discussed so far, you can start adding some variables that will give your drawings a more natural look. The first of these variations is to consistently make the tone stronger on one side or the other. Look at the spheres at left to see the difference. The far left is the way we have been doing it; the other is an example of emphasizing one side to give a feeling of a light source other than from directly ahead. A light source from directly in front is sometimes referred to as "flat lighting." In general, you will find that favoring one side or the other will give a stronger feeling of relief. In essence, you are shifting the light source to one side.



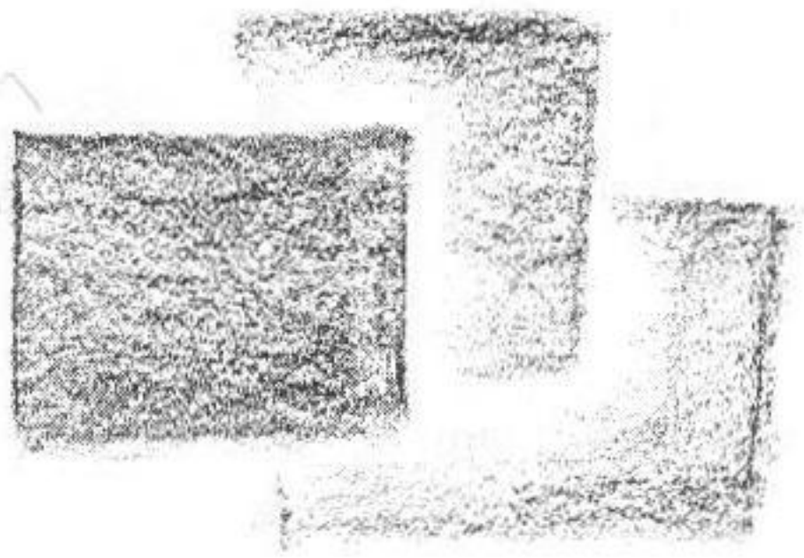
flat light **side light**

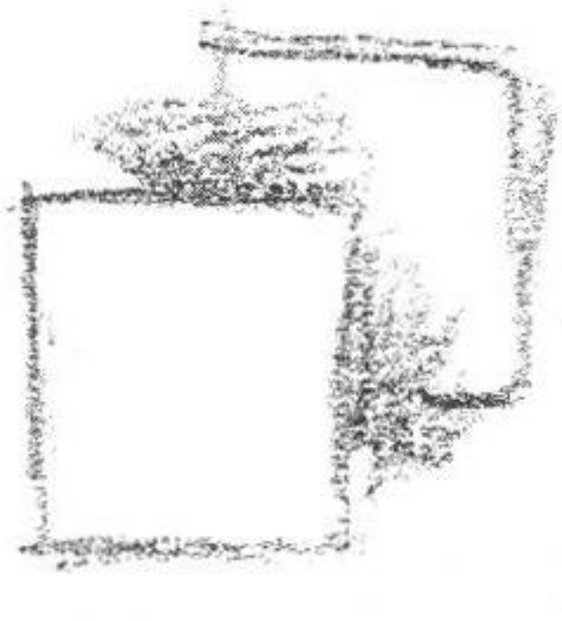


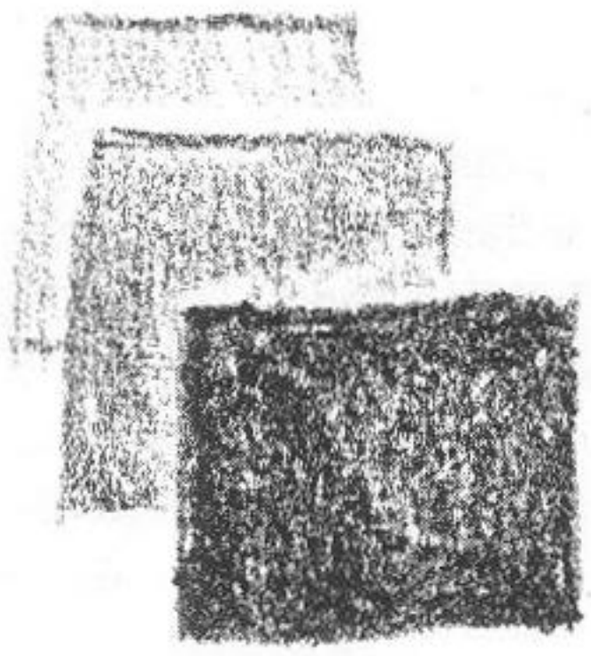


Look at this drawing and try to see it as a series of simple spheres with the tones pushed to the outside receding edge.

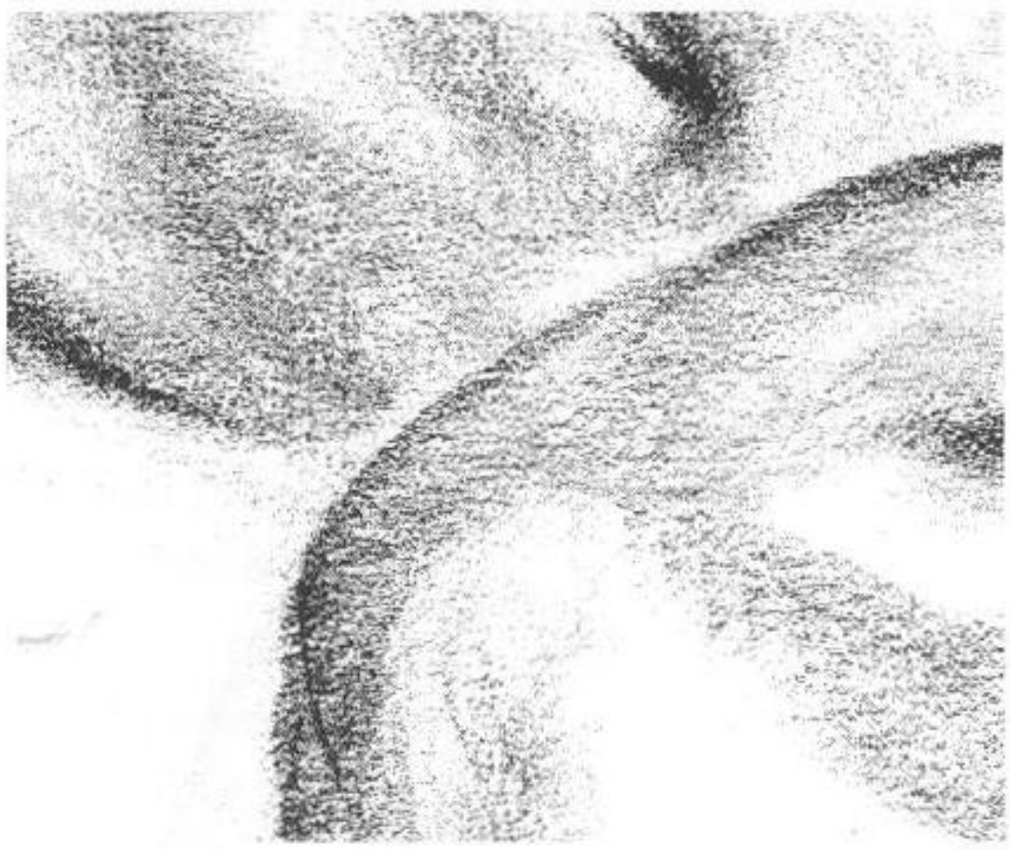
We started this lesson drawing with no distinction in the distance of a form from you, concentrating on the angles of the various planes to establish the tone. In the beginning of this chapter, I mentioned that we will be discussing three distinct approaches, "indirect lighting, direct lighting, and atmospheric perspective," and that, in practice, we usually use all three methods together to various degrees. In that context, we are now going to use some of the basic elements of atmospheric perspective in conjunction with the modeling tone. In Chapter twelve we will bring in many more elements of atmospheric perspective than we have discussed in this chapter. The basic concept of atmospheric perspective is that the farther something is away from you, the more atmosphere there is between you and the form. The closer something is to you, the sharper it will be, the more detail it will have, and the greater the contrast will be; the darks are darker and the lights are lighter. As the forms recede back, the lights and darks become closer in value and you lose contrast and detail. See the illustration on the right. A foggy or smoggy day gives you a perfect example of this concept.

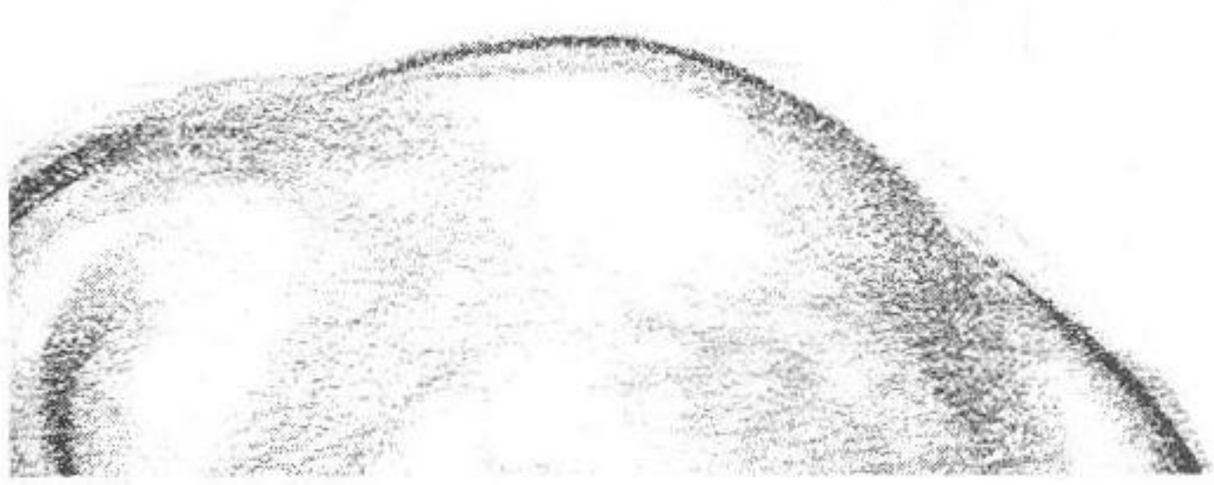


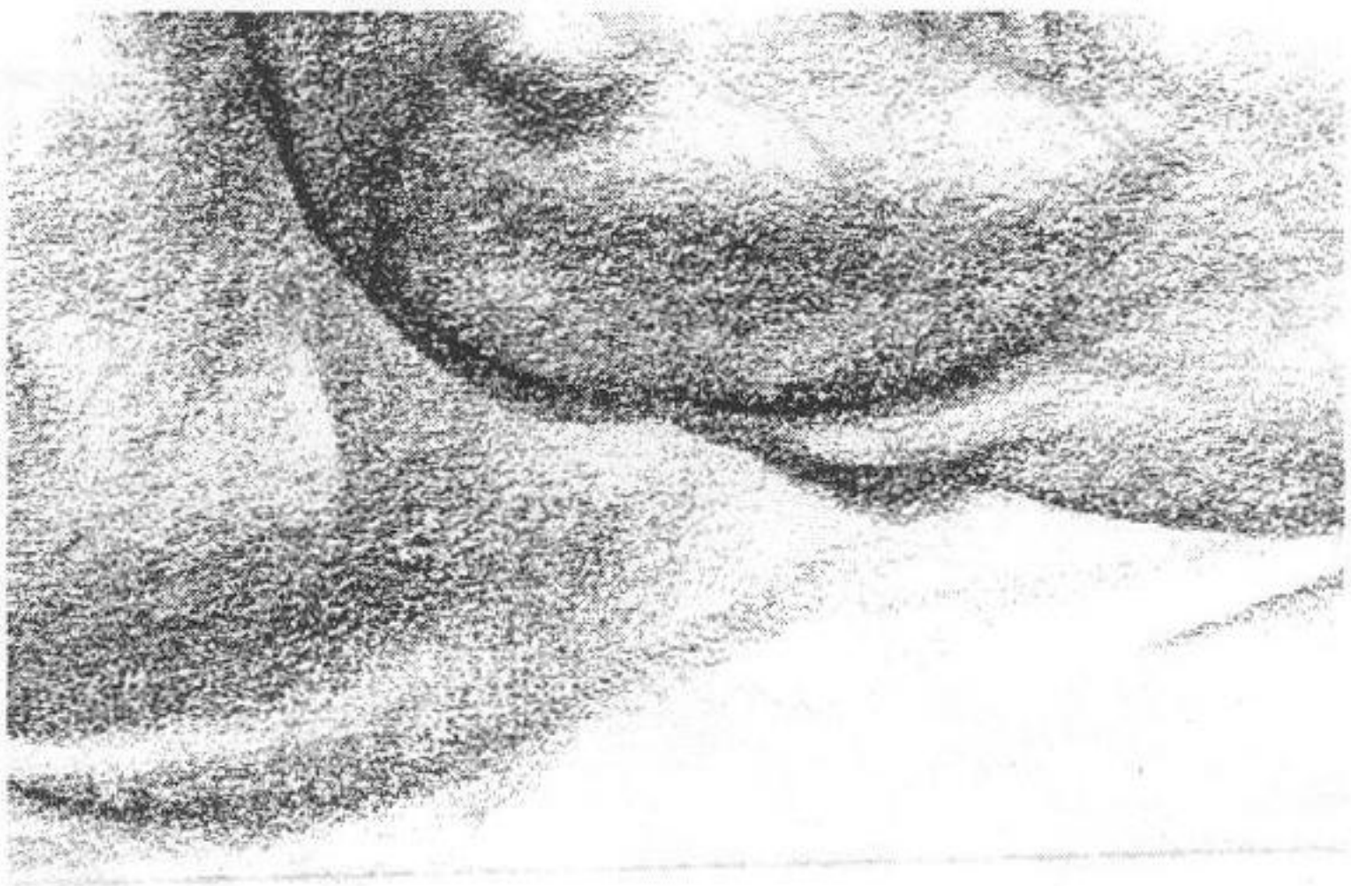


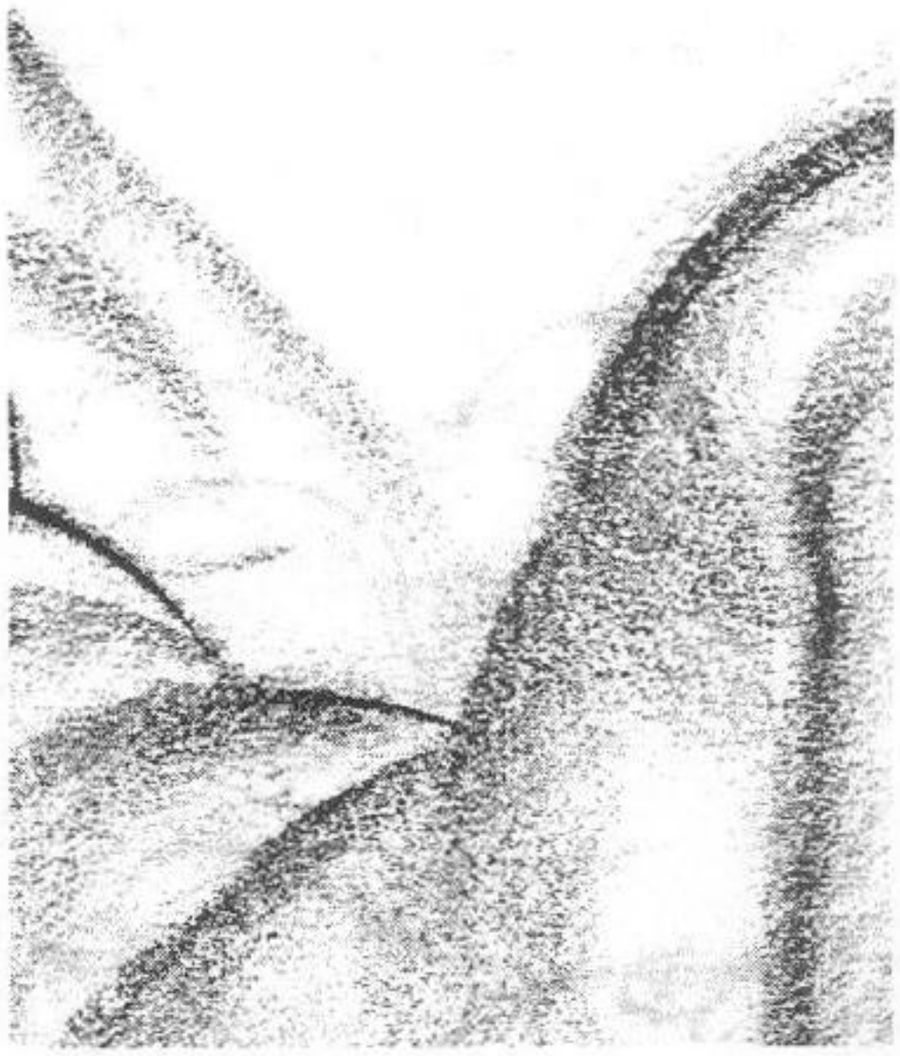


The forms do not have to have great distance between them. A simple overlap can become an excuse for using this concept. In the oriental landscapes, as in well as in the cubists paintings, this approach has been used as a basic method of showing space and separating forms. Here you see several examples of this. Look at the details on the right taken from the drawing on the next page and notice how this simple idea helped to separate forms and give a sense of depth to the drawing.



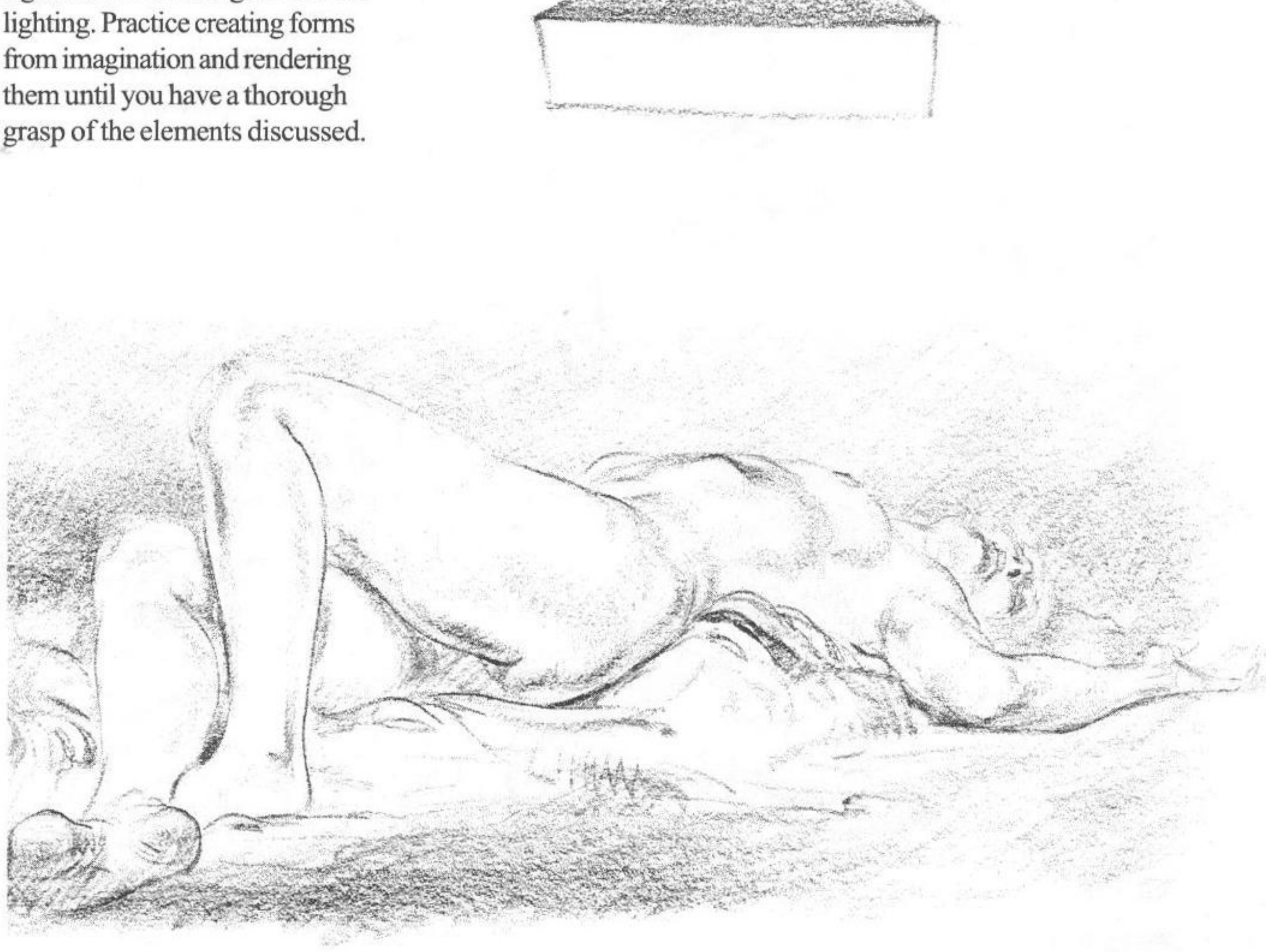






Notice the way this idea is used in these simple forms. In a continuously receding flat form, the leading edge should be darker. This idea is carried over into drawing boxes and cylinders. On this page and following pages are various examples of the basic ideas we have been discussing. Study them to see how they have been modified and used .

In the next lesson, we will be discussing direct light. To use direct lighting, you must first have a good understanding of indirect lighting. Practice creating forms from imagination and rendering them until you have a thorough grasp of the elements discussed.

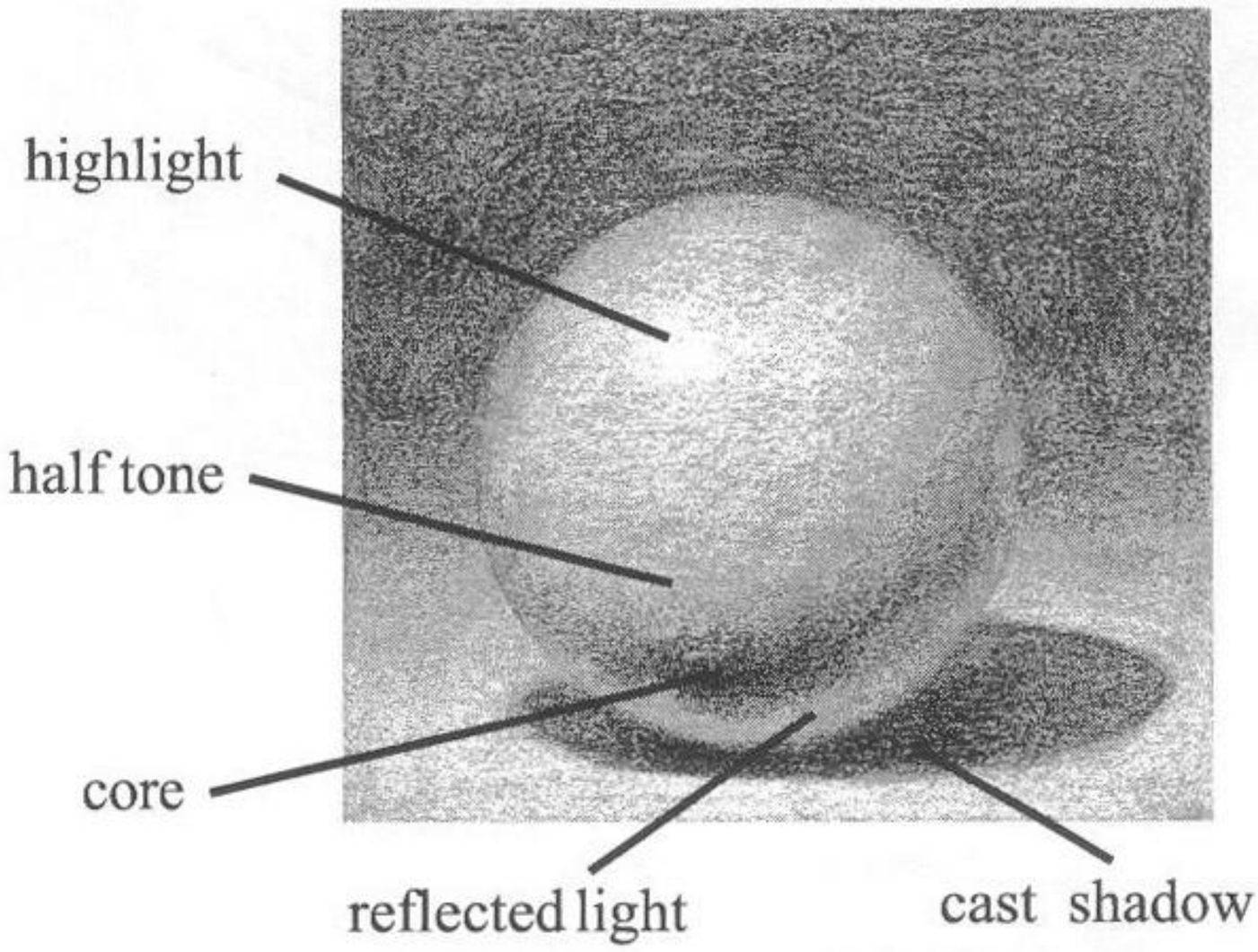


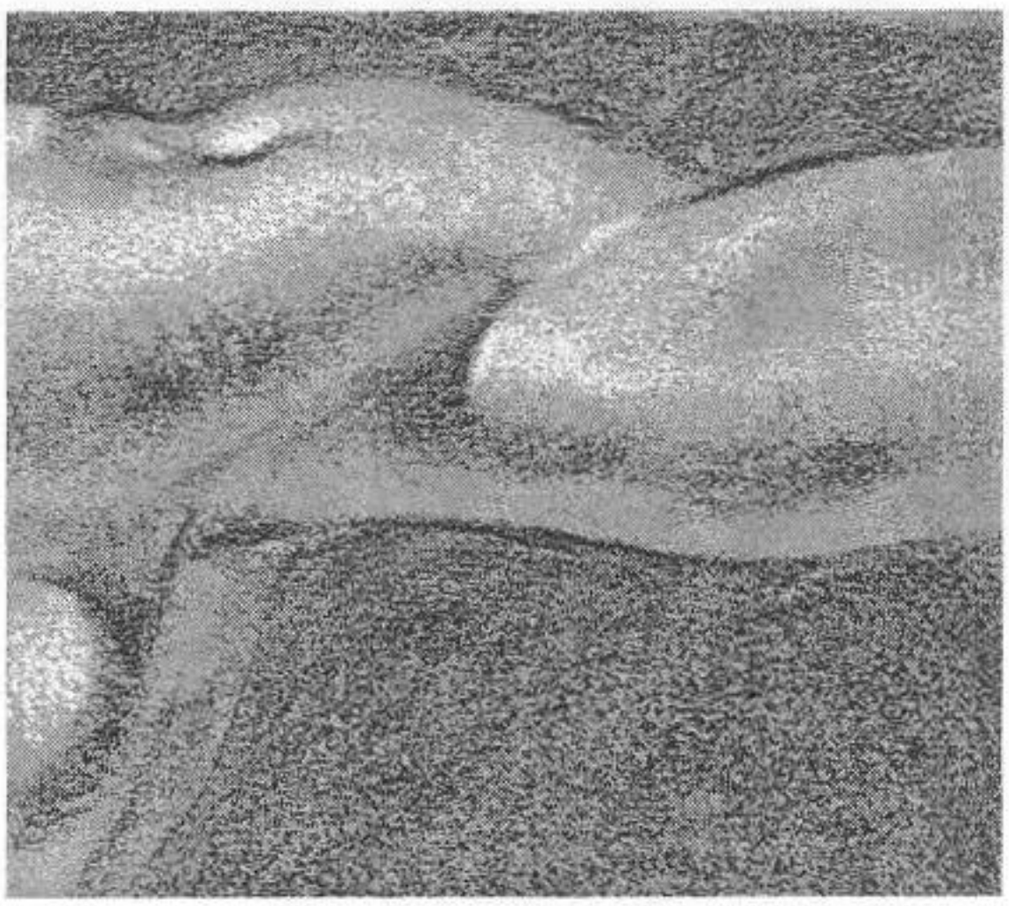
Direct Lighting

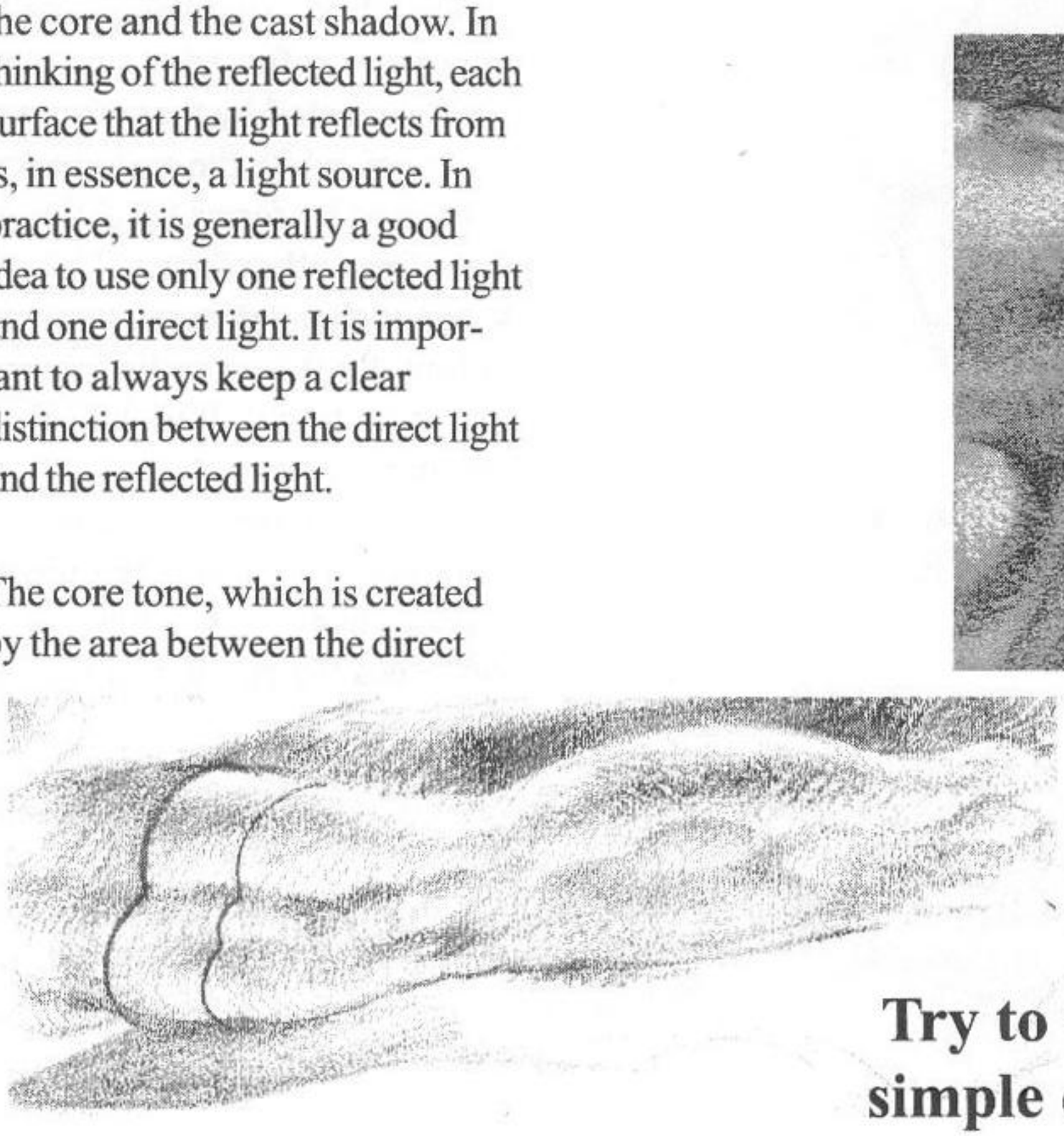
In the last chapter, we discussed indirect lighting, the modeling tone, and started on atmospheric perspective, which we will be dealing with more in Chapter 12. Direct lighting is what we normally see when we have a strong single light source. Sunlight on a clear day is an example. The basic elements of direct lighting are highlights, halftone, core, reflected light, and cast shadow (see Illustration No.1). The luminosity of a drawing is affected by how the reflected light is surrounded by the core and the cast shadow. In thinking of the reflected light, each surface that the light reflects from is, in essence, a light source. In practice, it is generally a good idea to use only one reflected light and one direct light. It is important to always keep a clear distinction between the direct light and the reflected light.

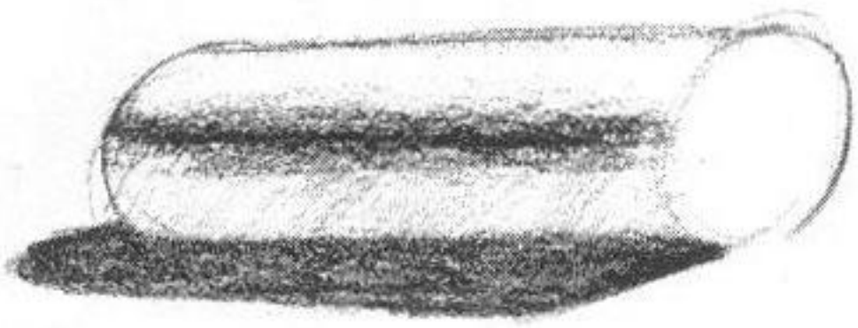
The core tone, which is created by the area between the direct

Illustration No. 1

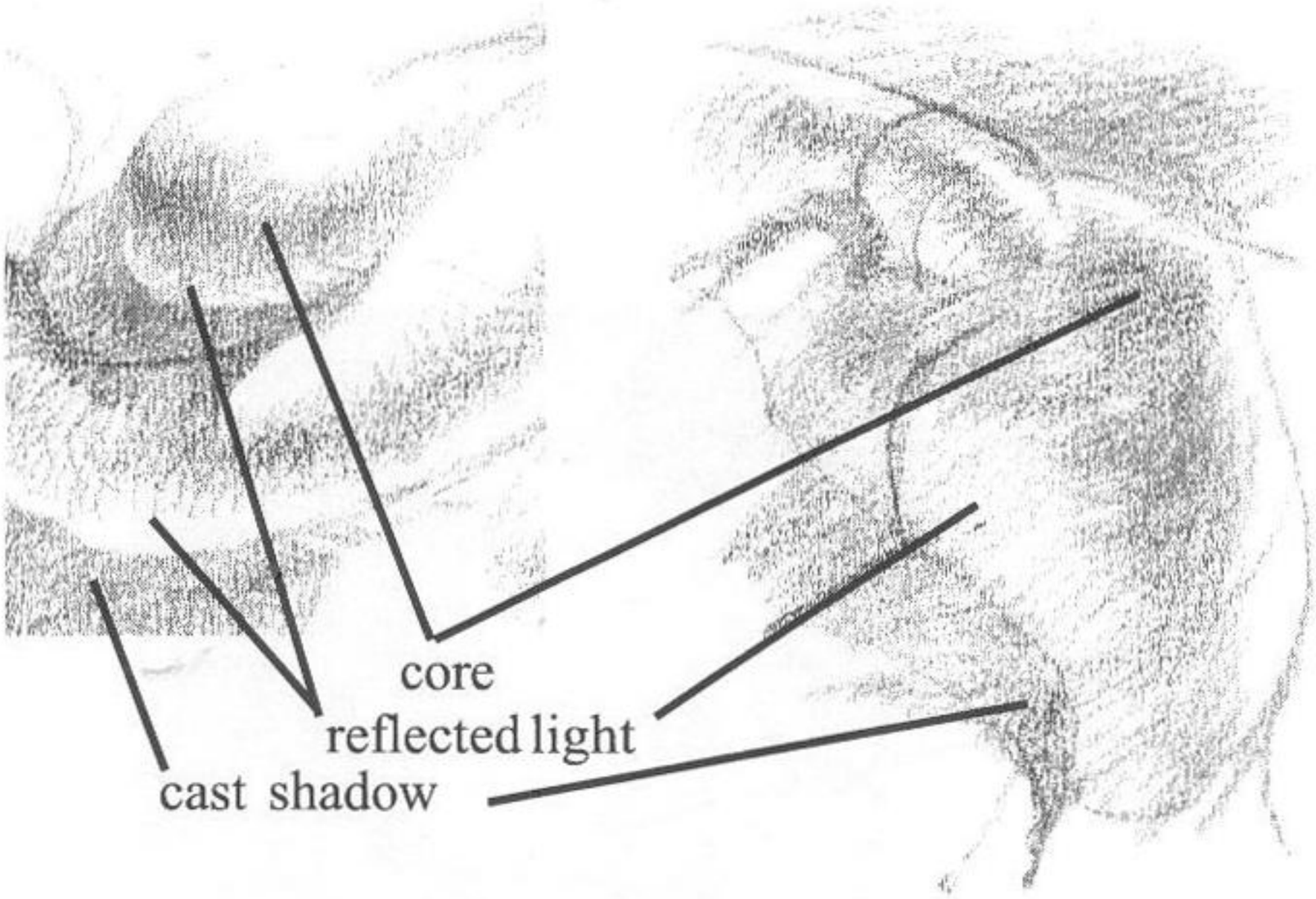


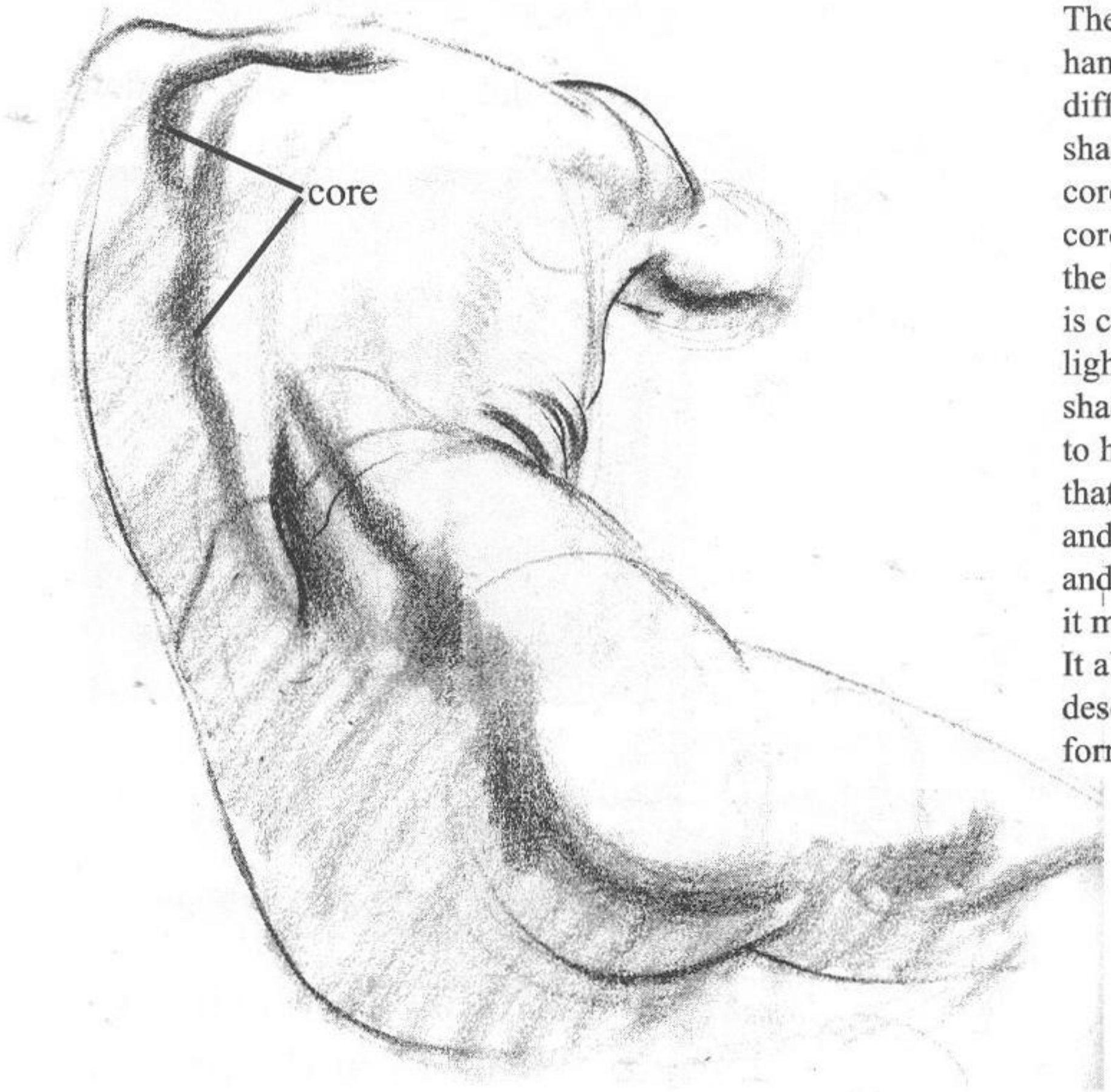






Try to visualize the forms as simple cylinders and spheres.



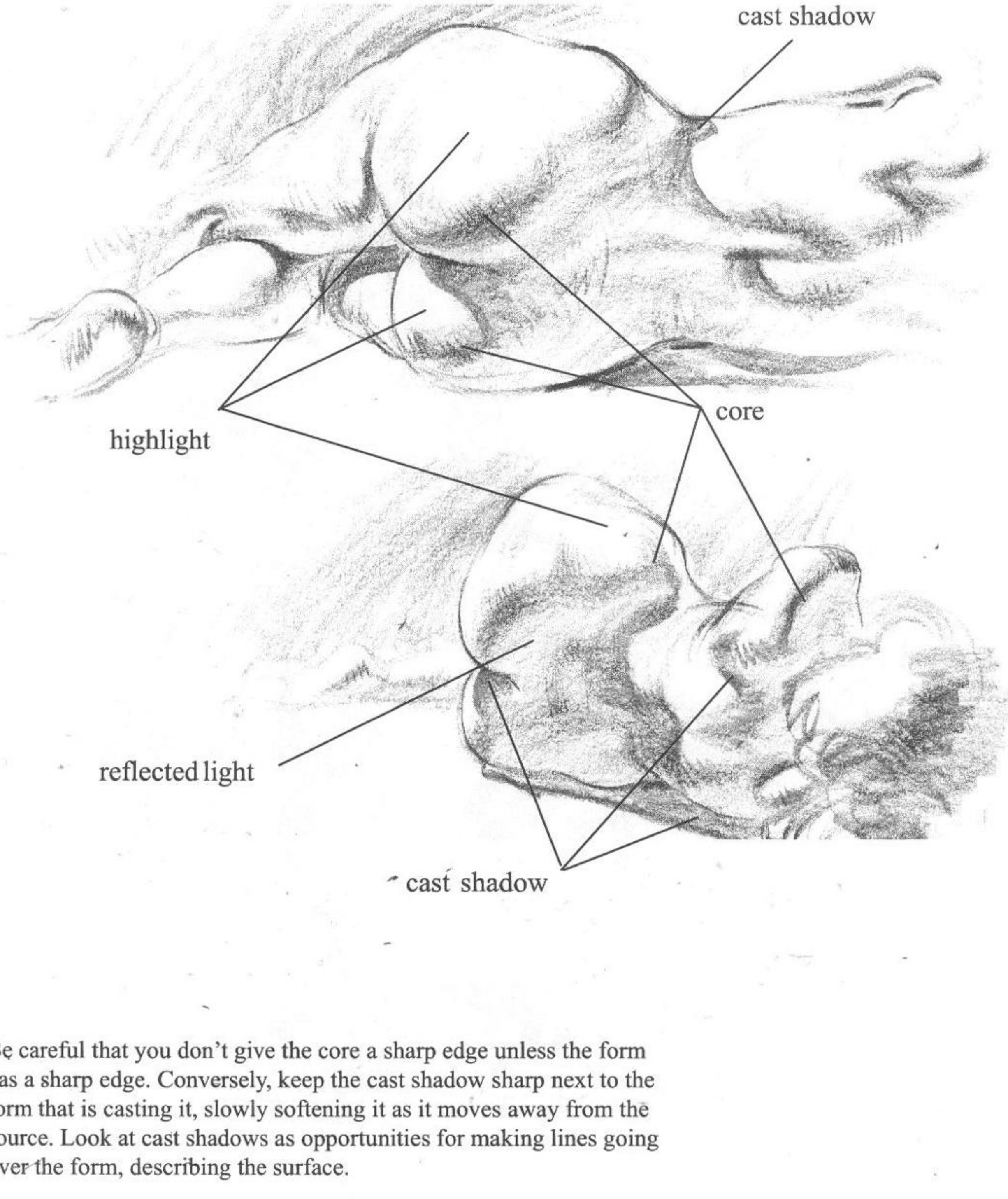


light and reflected light that does not get any light, is a potent tool in describing how forms fit into one another. The core functions as a broad tonal line that helps delineate the form's surface with its changes in sharpness (describing the suddenness of change in the surface.)

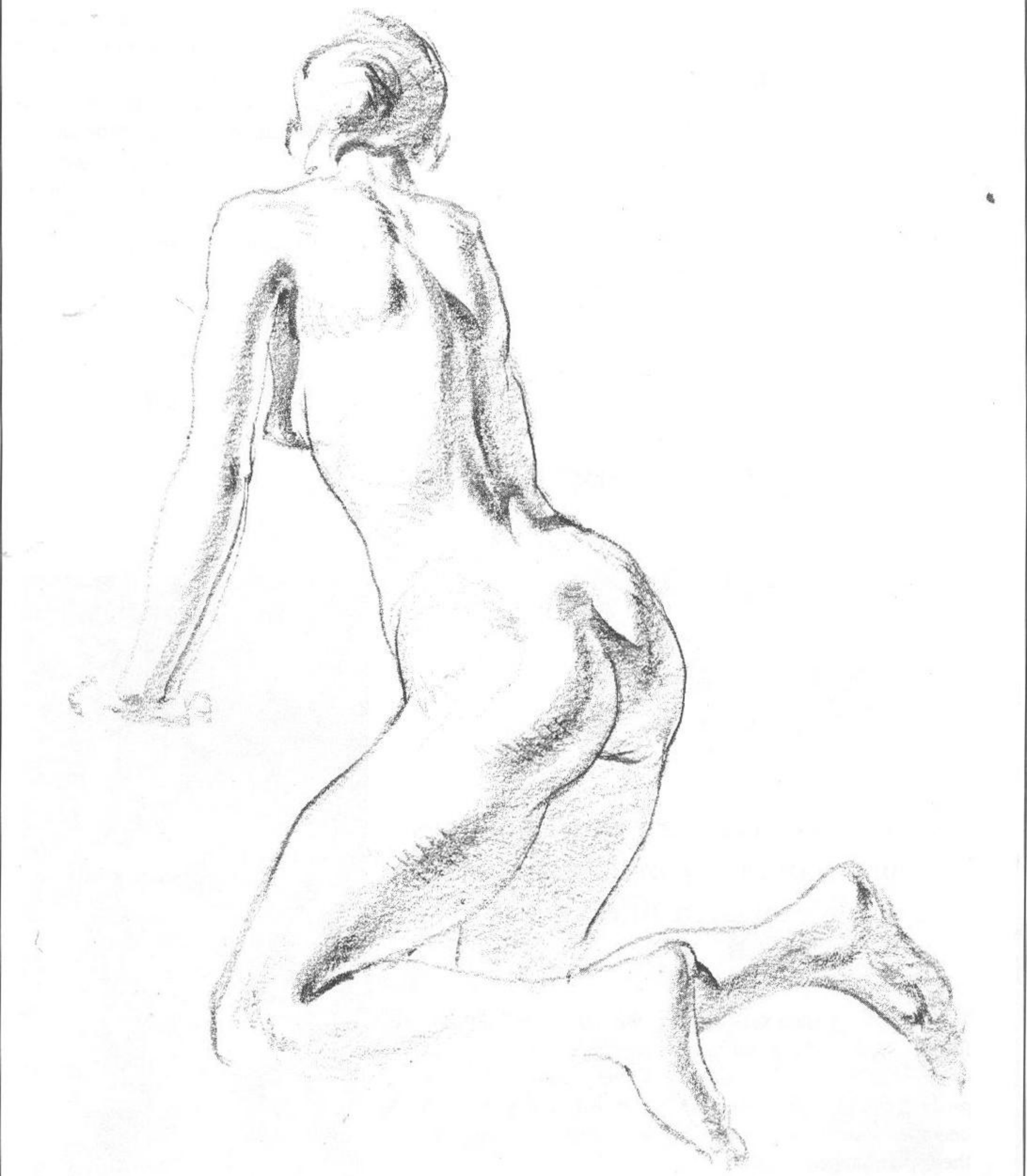
The core helps to emphasize the corners of the form. As you move the light sources, you will see how this core describes the form in conjunction with the reflected light.

The cast shadow works hand-in-hand with the core. The primary difference is that the cast shadow has a sharp edge and the core has a softer edge since the core is created by the turning of the form, while the cast shadow is created by forms blocking light from other forms. The cast shadow changes in relationship to how far it is from the object that is casting it. It is sharper and darker closest to the object and is softer and less intense as it moves away from the object. It also functions as a line that describes the contour of the form.

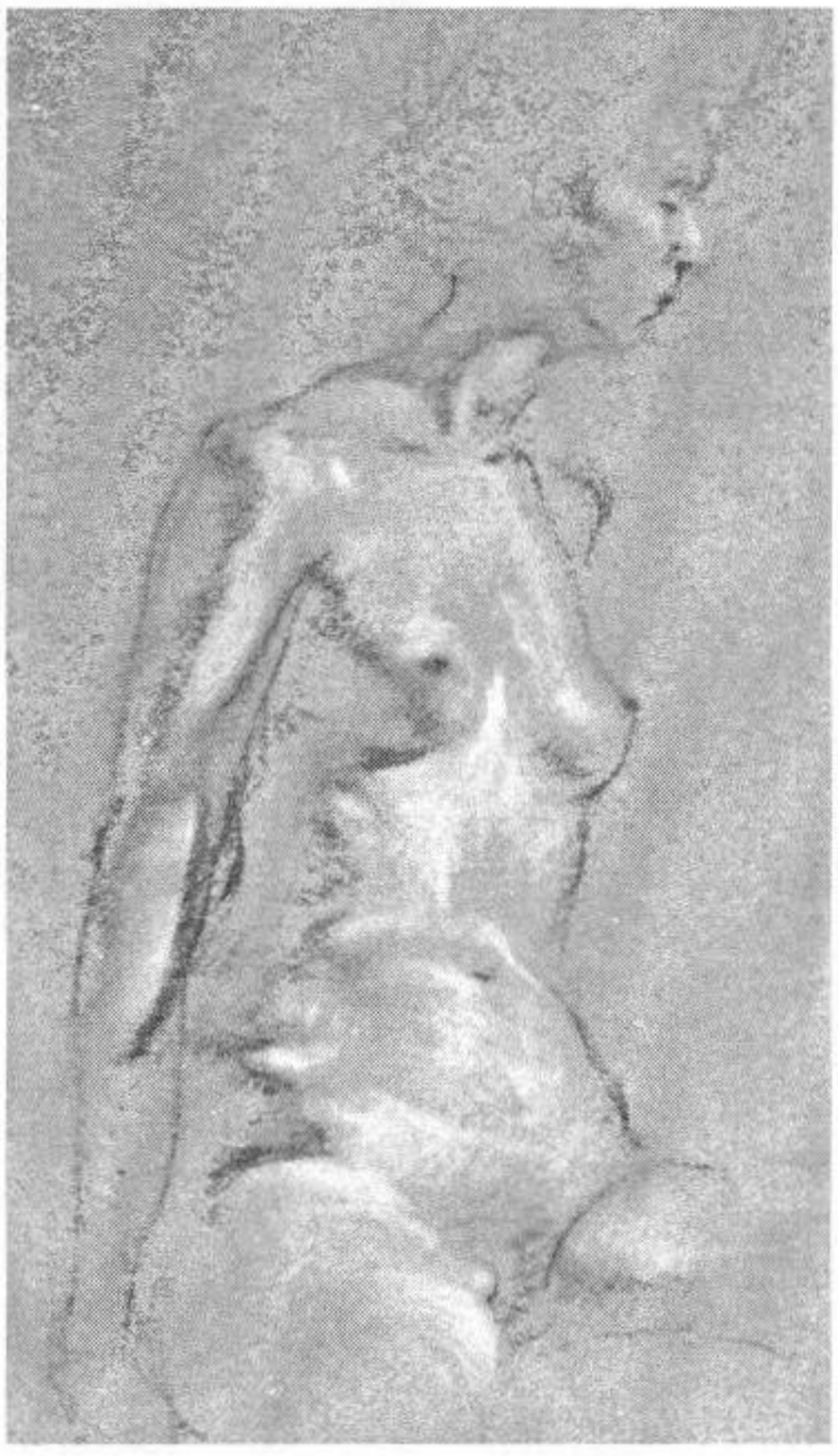
Illustration No. 4



Be careful that you don't give the core a sharp edge unless the form has a sharp edge. Conversely, keep the cast shadow sharp next to the form that is casting it, slowly softening it as it moves away from the source. Look at cast shadows as opportunities for making lines going over the form, describing the surface.



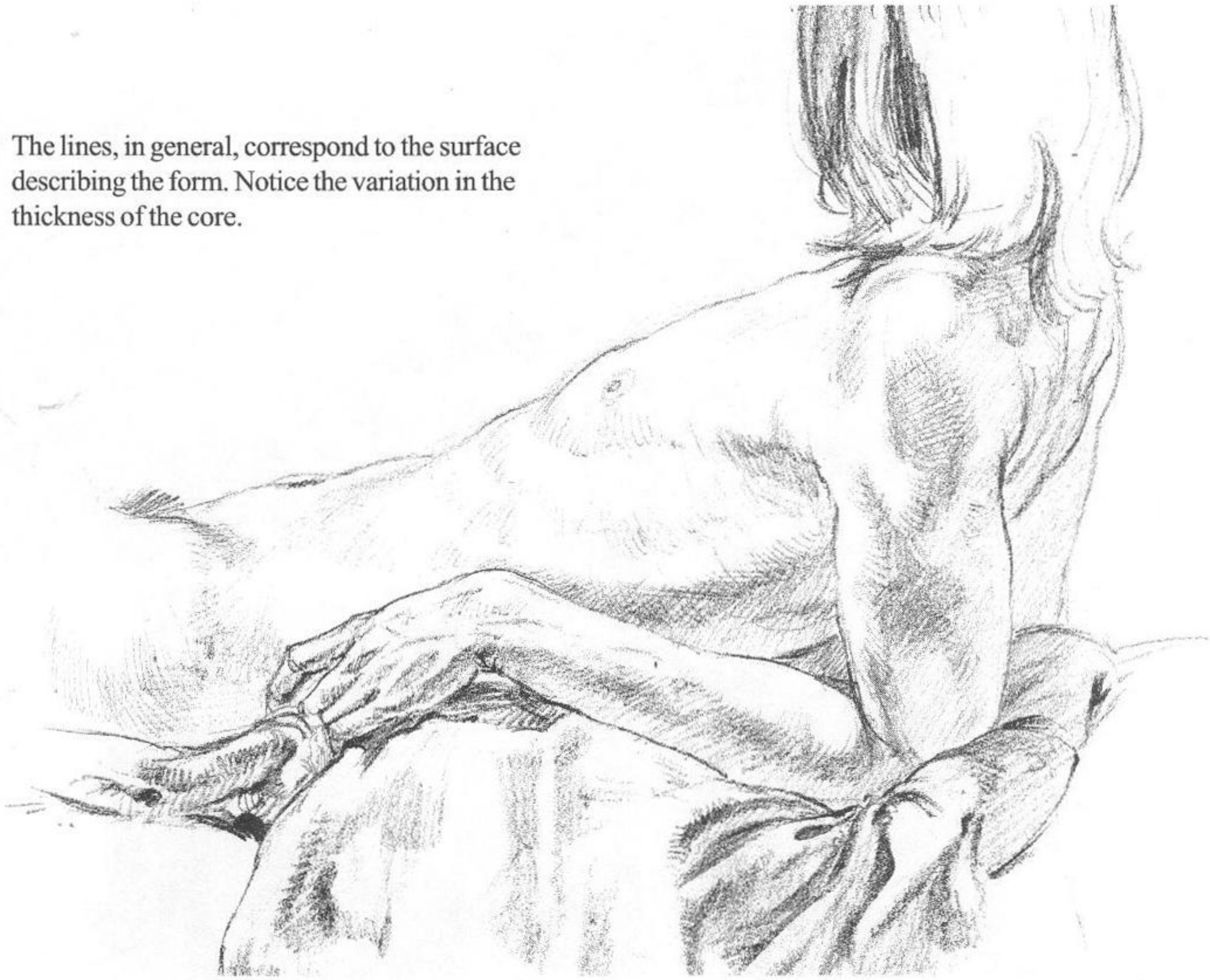
In the drawing to the left, the core and the edge of the cast shadow on the face have become the main elements of the drawing. The shadow side is completely left out, with the exception of minimal descriptive line. In the drawing below, notice how the core clearly defines the corner of the form without being a straight line.

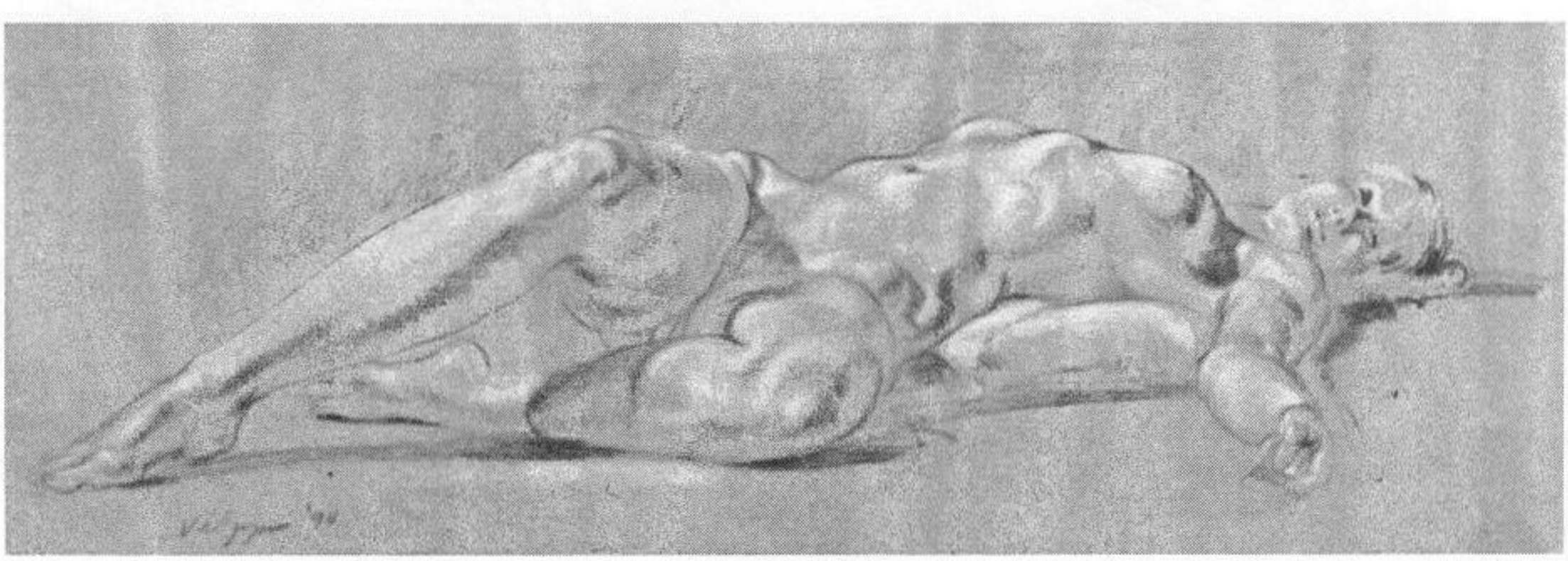


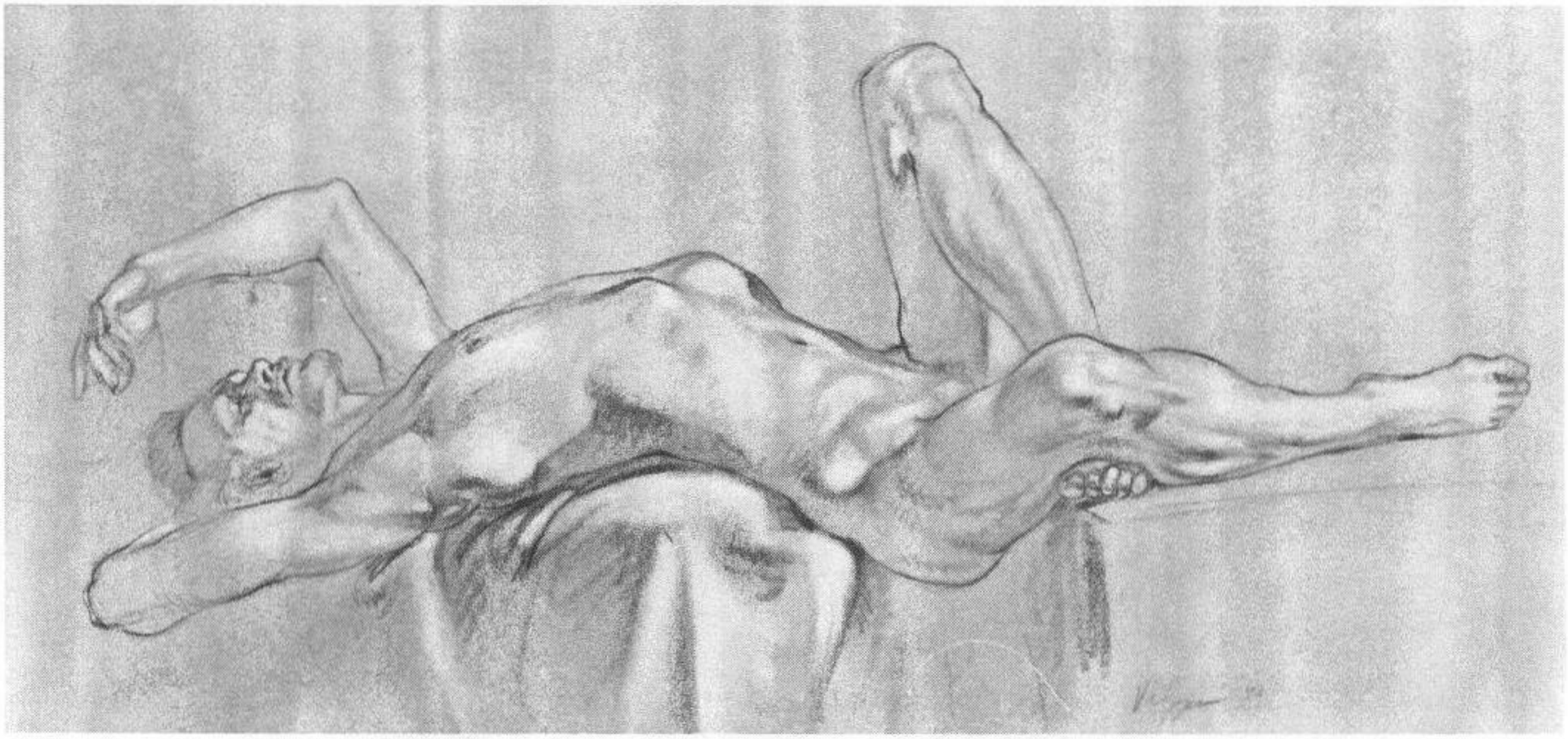
"Notice how the core clearly defines the corner of the form without being a straight line."

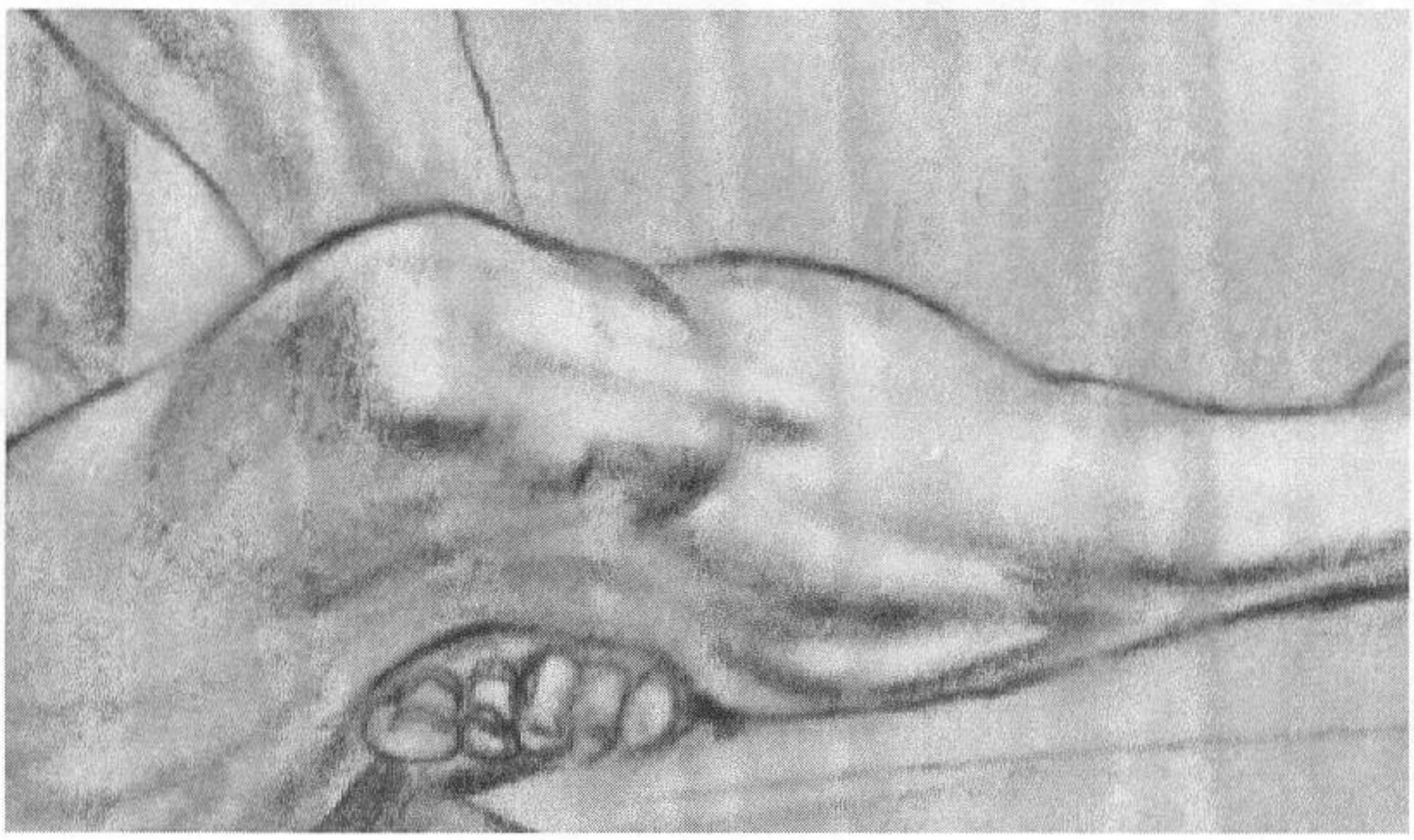
The highlight should vary like the core, being broad when the form is broad and sharp when the form is sharp. The accent of the highlight can be used to show the pressure of a bone pushing to the surface, and the sharpness of a crease. It also becomes a useful tool in showing the bottom of a fold where the form changes direction.

The lines, in general, correspond to the surface describing the form. Notice the variation in the thickness of the core.

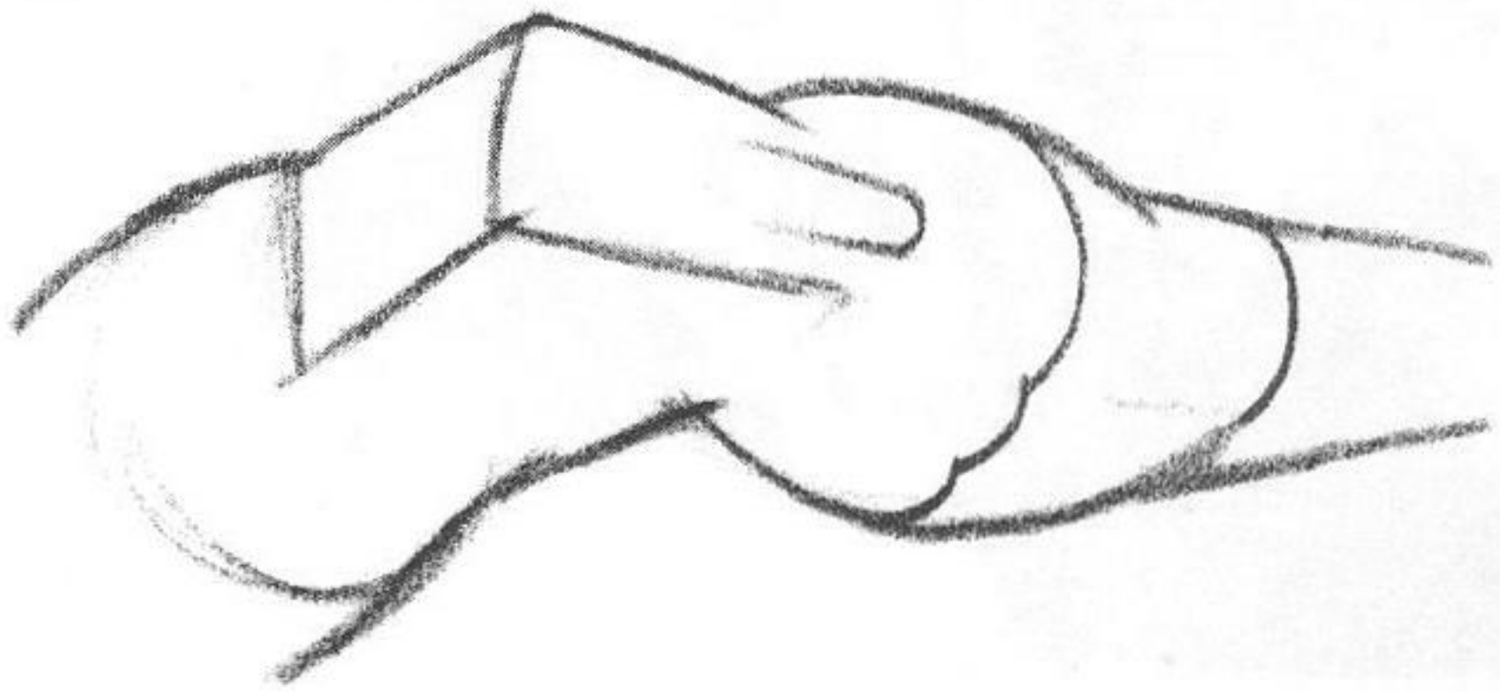








The simple basics of boxes and spheres is the foundation for developing clear tonal drawings. If you do not understand the three dimensional qualities of the form, you cannot successfully render the form in tone.



Atmospheric Perspective

Atmospheric perspective is normally discussed in conjunction with landscape painting since its true effect is primarily seen in nature in conjunction with great distances in space. The figurative artist has taken this sense of atmosphere and developed it as a strong tool of expression by abstracting the main elements and learning to use them while describing form.

In the last two chapters, I have already indicated some of the main elements involved in atmospheric perspective. First, the graying and loss of detail as objects recede in space due to more atmosphere coming between the viewer and the object. Second, the use of this phenomenon in a formulaic manner by artists to separate forms. In this chapter, using the idea of atmosphere will be expanded upon to include its

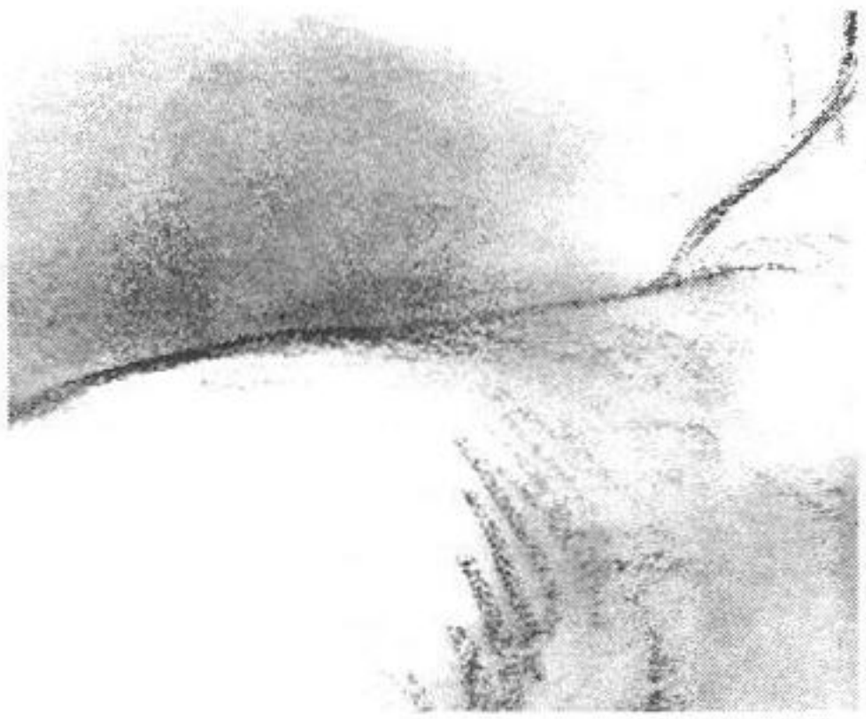
Illustration No. 1

A

B

C

Illustration No. 2



use as a basic element of design in the drawing to enhance the action of the figure and to clarify the three dimensionality of the form.

In Illustration No.1, notice how the tone expanded upon the basic rhythm of the figure. Compare diagram A and B in the illustration. I refer to this usage of tone as amplifying the action. The tone in "B" emphasizes the action and makes it feel stronger. The use of "atmosphere" in this illustration would generally be referred to as "just tone". The main point here is that the atmosphere around the figure is being manipulated as a compositional element to enhance the action. In "C" you will notice that the "core" part of the dark and light pattern is also an element in making the action stronger.

Let's look a little closer at our example. Illustration No. 2 is a close-up of the hip area. Now you will see that the tone from the background actually moves over the hip and in combination with the accent and fading of the line separates the forms of the hip from the waist.

Illustration No. 3 illustrates the same point and is also an example of using alternating tones of light and dark to give depth and separate forms.

Illustration No. 3

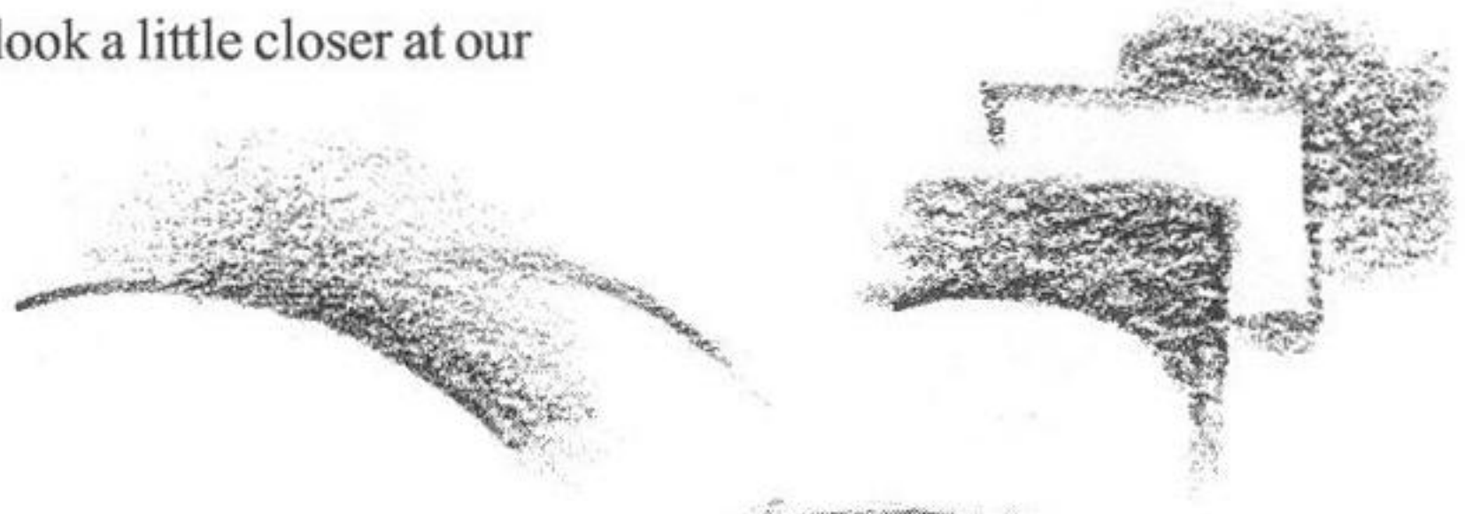


Illustration No. 4

Illustration No. 4 (above) is a more standard use of atmospheric perspective. The shadow areas have been combined by bringing the values closer together and simplifying detail. Notice how the core and cast shadow have been used to show the roundness of the forms and to contrast the sharp accents with the subtleties of the shadows and reflected light, thus giving a luminosity to the whole. Illustration No. 5 shows how the overall tone is wrapped around the form, giving the feeling of form emerging from a fog.

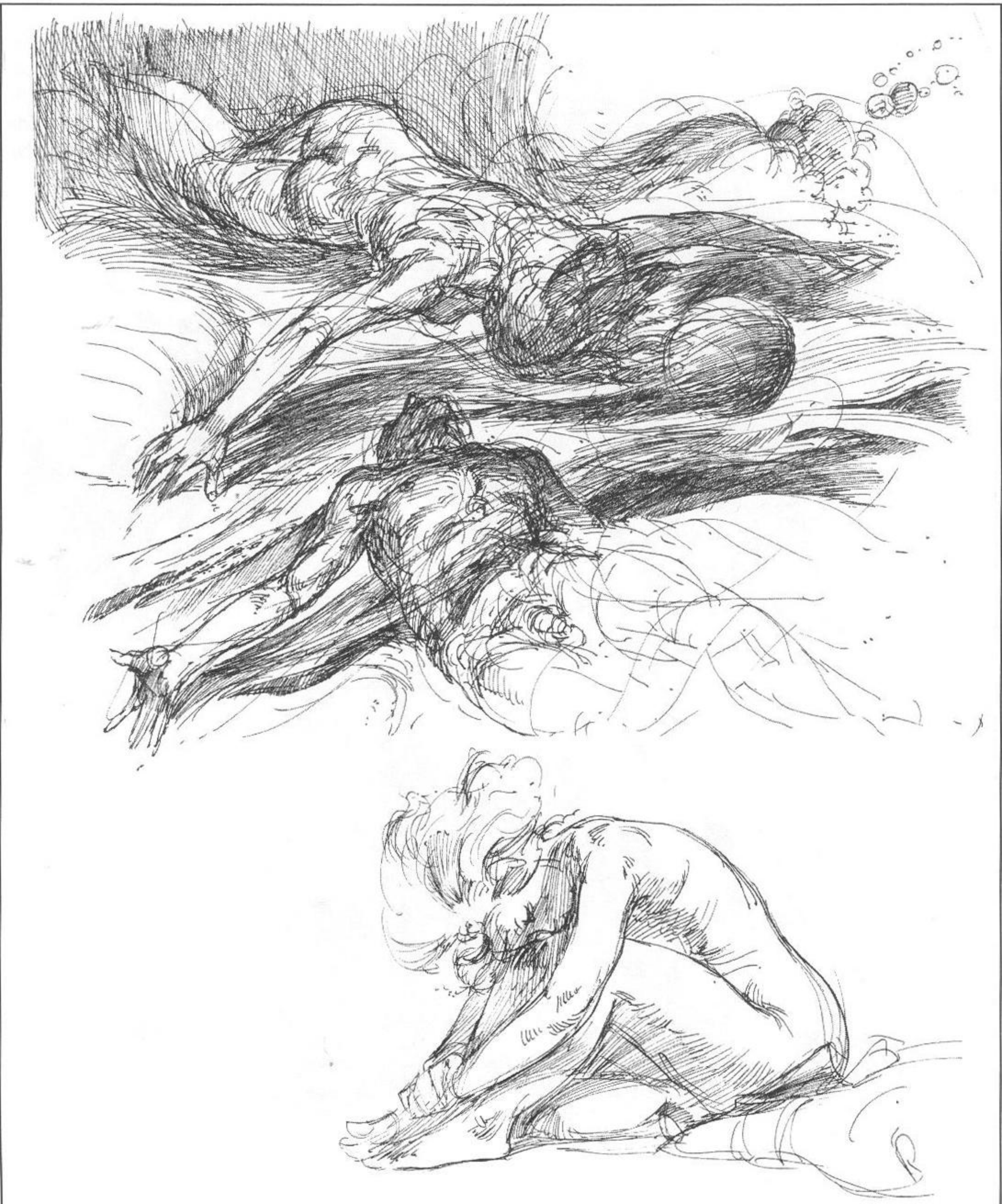
Illustration No. 5

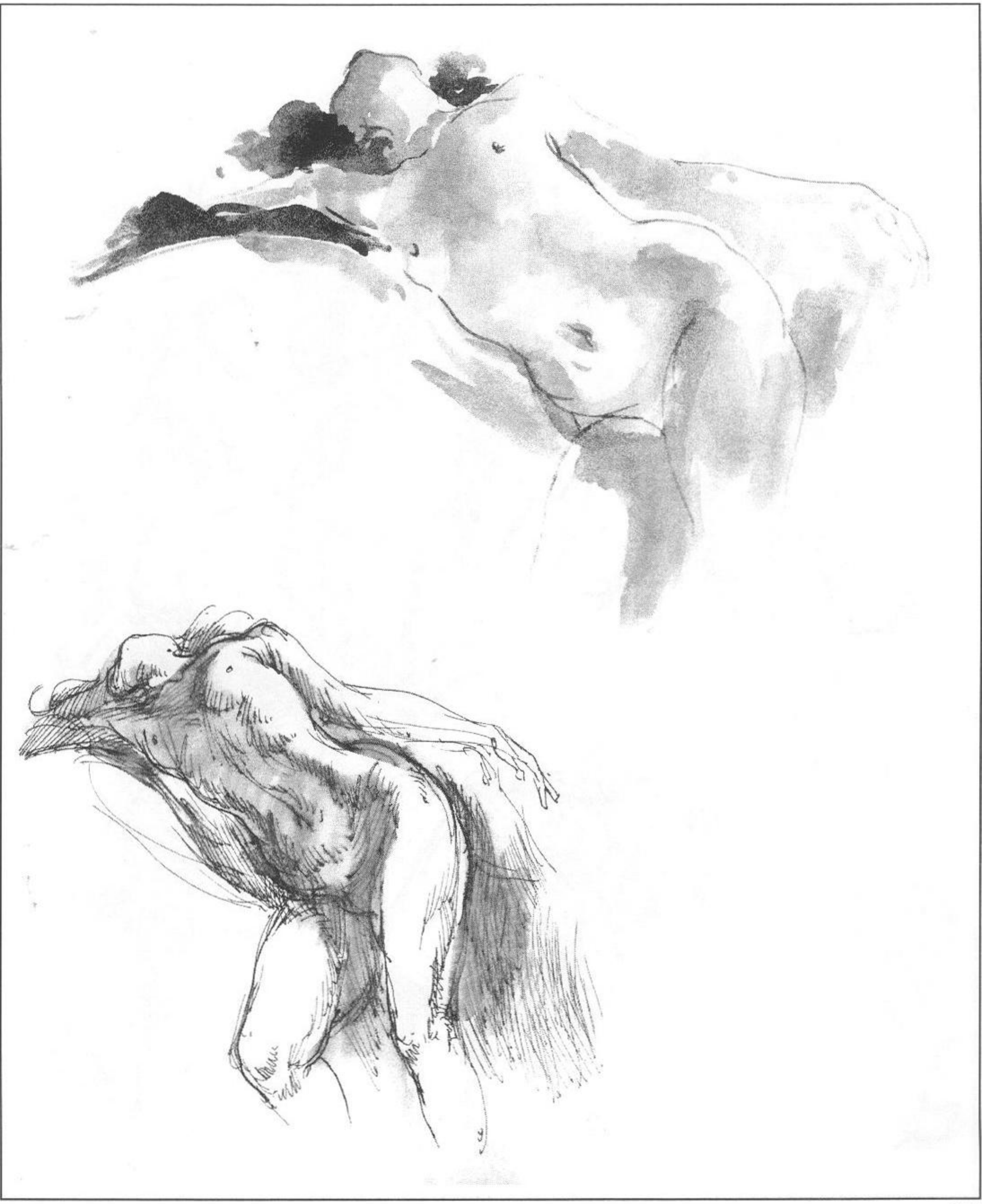
Illustration No. 6

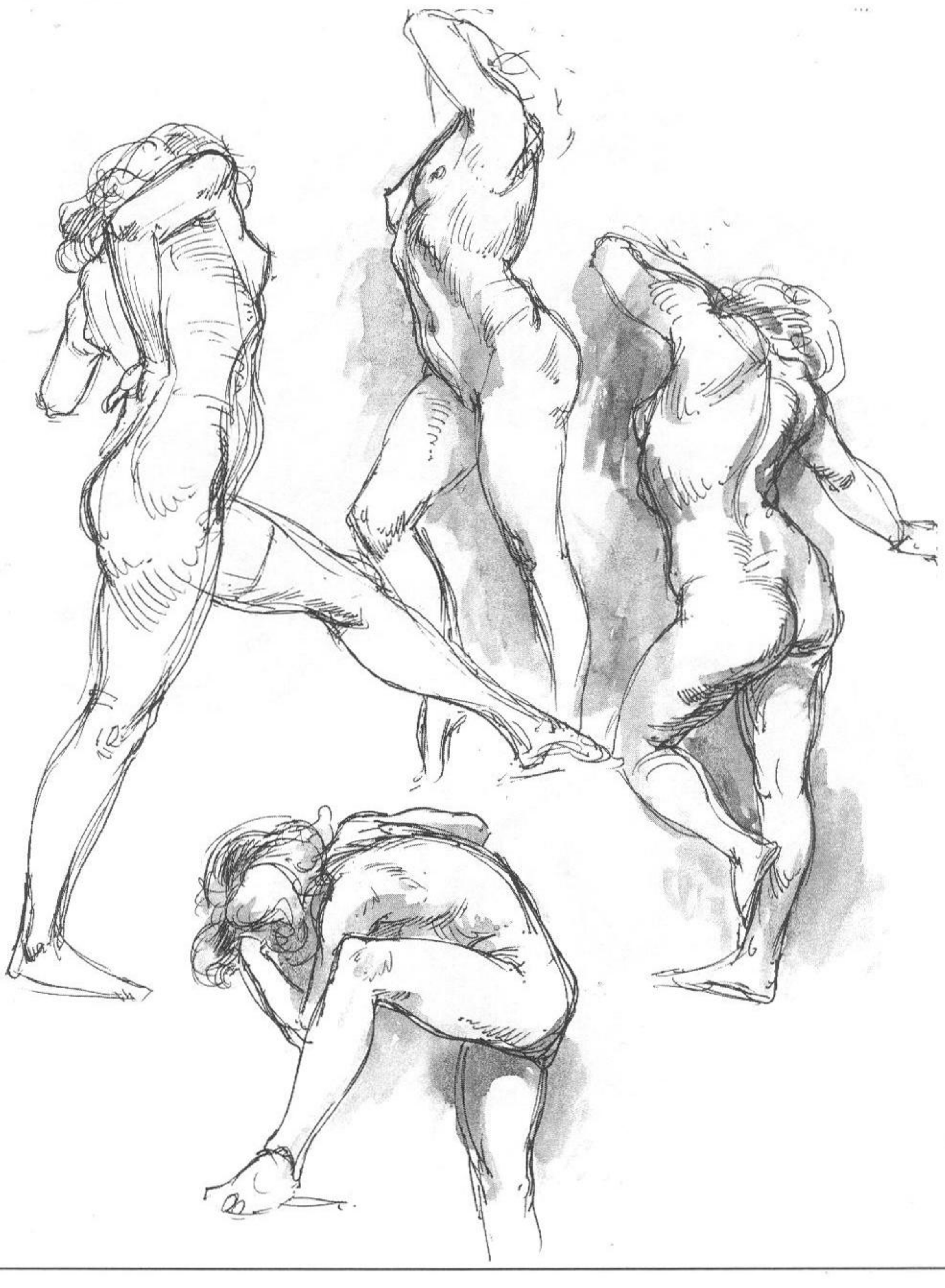
Illustration No. 6 is an example of strong usage of tone as atmosphere. The tone is not realistic but gives a strong feeling of form. Remember that we do not copy the models but use them for information. This drawing, though drawn from a model, is primarily conceptual in the use of tone, relying on concepts of rendering and analysis that we have been discussing. Illustration No. 7 has an even stronger sense of atmosphere than No. 6. Notice how you feel the tone coming between the shoulder and the hip, making them both come forward while pushing the waist in. The same is true for the head and shoulders.

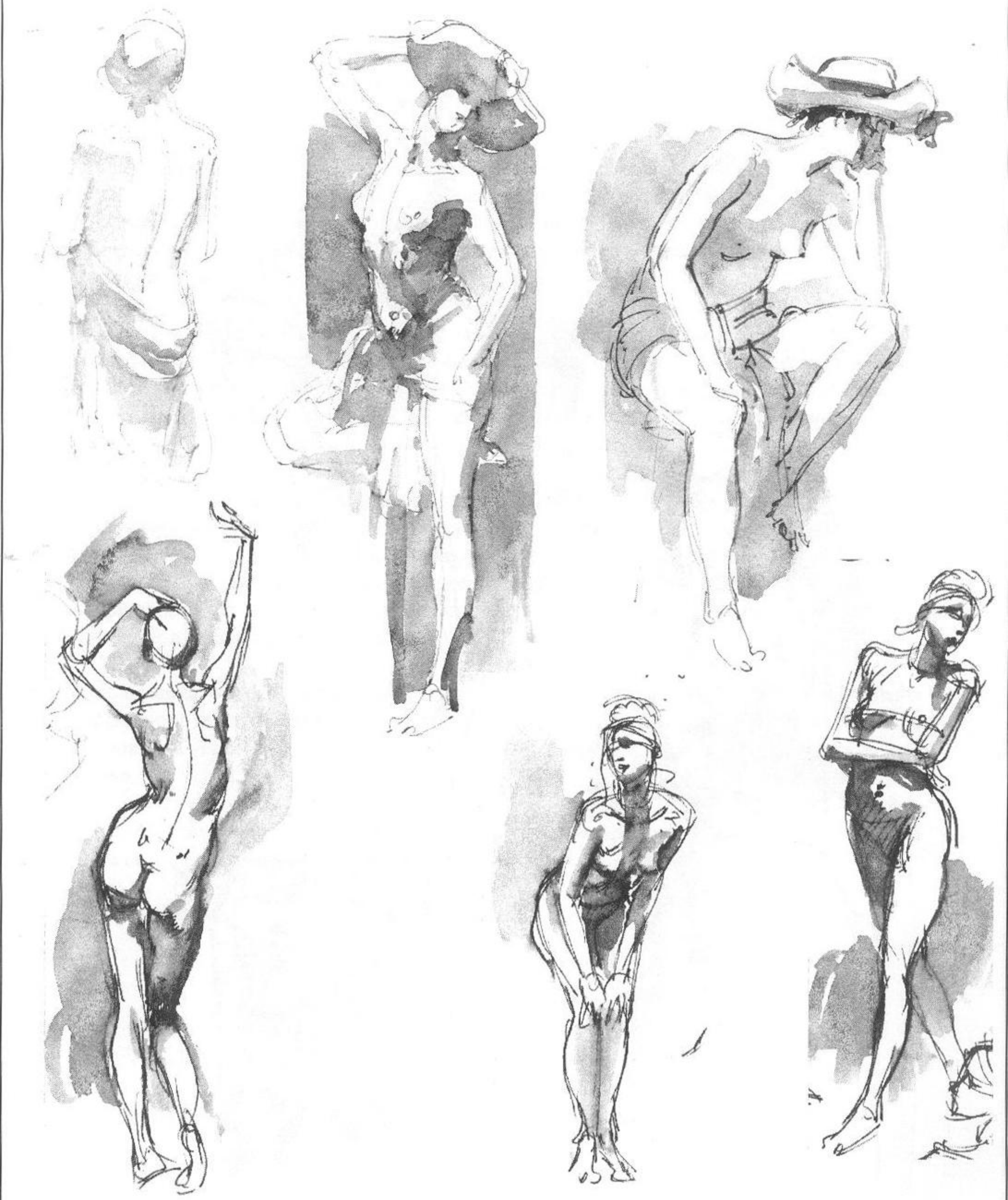
Illustration No. 7

This next series of examples, done with various materials, uses the ideas discussed so far. Study them and see if you can discover which concepts were being used.









Conclusion

One of the most important ideas that I hope you have acquired is something I have not given to you: a set of rules. Though artists as a whole have more things in common than separate them, it is the differences that are more often noticed. All artists, in a sense, have the same list of elements that they must deal with in their creative work. It is the hierarchical arrangement of these elements that creates the differences.

These lists, made up of the elements that we use, are not only visual but intellectual and emotional as well. To one artist, shape is the most important; to another, clor or tone; and a third may feel subjective implication or symbolic relationships are the most important. It is the priorities chosen when putting these lists in order that later constitute the differences between one artist and another, as it does for one epoch or culture and another.

This course has focused on the fundamentals of describing forms and basic procedures. It is important to keep in mind that these fundamentals, i.e. boxes, cylinders, spheres, atmospheric perspective, etc. are tools. As tools, these basic elements can be used in many ways in the service of your needs. As the tools and basic procedures become part of your thinking pattern, you transform them into a personal language of communication. A basic drawing course is, in essence, a basic visual-thinking course.

This manual was designed as a twelve week course in basic figure drawing. When I teach in the classroom, my students take this course many times, some even taking the basic course for a number of years. My goal is to give you the tools to keep studying whether in a class or on your own.

For many disciplines it is a simple truth that the more advanced you become the more important the basics are. It is no different when you learn to draw.

Remember: knowing the basics provides the tools for expression.